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ABSTRACT

This document outlines the strategic plan developed in 1999 by the Southeastern University and College Coalition for Engineering Education (SUCCEED). The organizational structure, overall goals and milestones, and core strategies of the SUCCEED Project are described. This plan overviews faculty development, outcomes assessment, student transitions, technology-based curriculum delivery, assessment and evaluation, and dissemination. Program descriptions for each of the member schools--Clemson University, Florida A&M University, Florida State University, Georgia Institute of Technology, North Carolina A&T State University, North Carolina State University, University of Florida, University of North Carolina at Charlotte, Virginia Polytechnic Institute and State University--are also presented. (WRM)

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SUCCEED

SOUTHEASTERN UNIVERSITY AND COLLEGE COALITION FOR ENGINEERING EDUCATION

STRATEGIC PLAN

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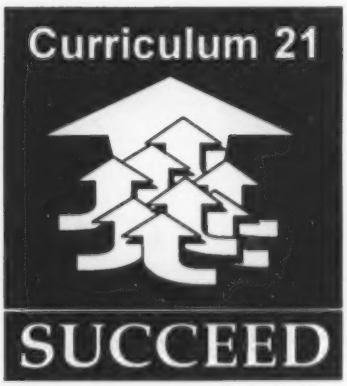

An NSF Engineering Education Coalition

Clemson University - Florida A&M University - Florida State University
Georgia Institute of Technology - North Carolina A&T State University
North Carolina State University - University of Florida
University of North Carolina at Charlotte
Virginia Polytechnic Institute and State University

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Table of Contents

Introduction 1
SUCCEED's Organizational Structure—Its Foremost Strategy 1
Campus Implementation Teams 1
Coalition Focus Teams 2
Coalition Service Teams 2
SUCCEED's Overall Goals and Milestones 3
SUCCEED's Core Strategies 4
Table 1. Core Strategies 5
Faculty Development CFT Strategic Plan Overview 6
Faculty Development CFT Core Competencies Matrix 7
Outcomes Assessment CFT Strategic Plan Overview 8
Outcomes Assessment CFT Core Competencies Matrix 9
Student Transitions CFT Strategic Plan Overview 10
Student Transitions CFT Core Competencies Matrix (1 of 2) 11
Student Transitions CFT Core Competencies Matrix (2 of 2) 12
Technology-Based Curriculum Delivery CFT Overview 13
Technology-Based Curriculum Delivery CFT Core Competencies Matrix 14
Assessment & Evaluation CST Strategic Plan Overview 15
Dissemination CST Strategic Plan Overview 16
Clemson University Strategic Plan Overview 17
Clemson CIT Institutionalization Timetables 18
Florida A&M University—Florida State University CIT Strategic Plan Overview 22
FAMU-FSU CIT Institutionalization Timetables 24
Georgia Institute of Technology CIT Strategic Plan Overview 28
Georgia Tech CIT Institutionalization Timetables 29
North Carolina A&T State University CIT Strategic Plan Overview 33
NC A&T CIT Institutionalization Timetables 34
North Carolina State University CIT Strategic Plan Overview 38
NC State CIT Institutionalization Timetables 40
University of Florida CIT Strategic Plan Overview 44
UF CIT Institutionalization Timetables 46
University of North Carolina at Charlotte Strategic Plan Overview 50
UNC-C CIT Institutionalization Timetables 51
Virginia Polytechnic Institute and State University Strategic Plan Overview 56
Virginia Tech CIT Institutionalization Timetables 58

Introduction

In **SUCCEED**'s proposal to the NSF for five additional years of funding, we provided the reasoning and evidence to support our approach to create sustainable reform of engineering education within our schools and beyond. Through review by the NSF, the **SUCCEED** Deans, our External Advisory Board, and our own Guidance Team, that original proposal was woven into a comprehensive strategic plan. While **SUCCEED**'s overall strategic plan has not changed significantly in the past year, we have significantly shaped our local team strategic plans. We have also developed graphical ways to capture and review our plans as seen in the pages that follow. Each of our teams has provided a short overview of its strategies and accomplishments. In the case of **SUCCEED**'s Campus Implementation Teams, which ensure that a version of our curriculum model is implemented on their campus, a matrix is provided that is a timetable illustrating the use of NSF funding to initiate innovation and then showing the transfer of innovation to institutional funding. For each campus, there is one such matrix for each area of **SUCCEED**'s focus. Our Coalition Focus Teams, which have a coalition-wide charter, use a similar graphical tool to monitor the progress on each campus in each of a set of core competencies. These matrices allow the Coalition leadership to quickly identify areas where additional attention is required.

SUCCEED's Organizational Structure—Its Foremost Strategy

The emphasis of our activities is the implementation and institutionalization of innovations produced by **SUCCEED** and, where appropriate, other Coalitions and non-Coalition schools. Our model curriculum is the template, and programs that change the academic culture and are driven by comprehensive assessment and evaluation results will facilitate its implementation. Given **SUCCEED**'s vision of achieving sustainable and systemic curriculum reform, the following key observations are incorporated into our strategy:

1) **SUCCEED**'s role is not to fully fund comprehensive implementation of our curriculum model on each campus, but rather to lead and facilitate implementation on all campuses.

2) Acceptance of our model and broad participation in the implementation process will be needed on each campus; particularly important is strong buy-in by the department chairs and other leaders on each campus.

3) Each implementation of our curriculum model will differ, reflecting the diversity of the **SUCCEED** Colleges of Engineering.

4) The strength of the Coalition approach is in reduced development and testing cost, a support structure, shared resources, and the credibility of NSF funding.

Campus Implementation Teams

Based on these observations, **SUCCEED** has designed a team-based structure that empowers and supports each college in its efforts to implement our curriculum model. The heart of this structure is the **Campus Implementation Team (CIT)**. A **CIT** has been formed on each

sustainable and systemic curriculum renewal on the individual campus. Each **CIT** has developed a strategic plan for achieving systemic change over a five-year period—details of each campus' plan are provided later. Each campus implementation team has the role of leadership and facilitation. The team will also be involved in assessment and evaluation of their campus programs to guide its decisions and to provide input to the other **CIT**s. It is critical to recognize that each campus is different and the **CIT** will understand its campus and how the **SUCCEED** model should be adapted to it. Our strategy empowers the **CIT**s to effect curriculum renewal on their campuses; their activity is central to achieving our vision.

Coalition Focus Teams

An analysis of the strengths, weaknesses, and opportunities facing **SUCCEED** led the Guidance Team to identify the critical issues that must be addressed in order to achieve implementation of the **SUCCEED** curriculum model on all campuses. Identification of these critical elements was based on input from our stakeholders (e.g., Dean's Council, External Advisory Board, review team, department chairs, student advisory team, and **SUCCEED** PIs). Four areas were selected from this input. These core competencies are:

FOCUS AREAS

1. **Faculty Development**
2. **Outcomes Assessment**
3. **Student Transitioning**
4. **Technology-Based Curriculum Delivery**

A second set of teams has been formed, called **Coalition Focus Teams (CFTs)**, with the charge of facilitating the implementation of our innovations in each of these four critical areas. Each of the four **CFT**s has a member from each **SUCCEED** campus and these **CFT** members are also members of their home **CIT**. This matrix organization ensures that the **CFT**s are addressing the issues necessary for success on each campus and maximizing communications between campuses in each focus area. The four focus areas represent the essential elements of our curriculum model, and at the end of five years each campus will have these elements deployed in their curricula. The strategic plans of each of the **CFT**s are included later.

Coalition Service Teams

Two additional teams round out **SUCCEED**'s strategy for success through collaboration. Because these two teams provide planning assistance and expertise to all Coalition teams, they are called Coalition Service Teams. The Dissemination Team is charged with reaching out to the engineering education community to share **SUCCEED**'s experiences. Through the more active and focused dissemination strategies described later, **SUCCEED** will achieve a wider audience more rapidly. To gain acceptance for **SUCCEED**'s efforts and to guide internal planning, an Assessment and Evaluation team has also been formed. A wide range of complementary strategies will enable **SUCCEED** to provide the evidence necessary to facilitate change.

SUCCEED's Overall Goals and Milestones

SUCCEED defined a set of goals and milestones in preparing its proposal to the NSF for continued funding. While the path we are taking, our strategic plan, has been updated with knowledge and experience, we are still committed to reaching the same destination mapped out here.

SUCCEED GOALS

Overarching Goal **Institute a sustainable version of our curriculum model on each SUCCEED campus.**

- **Create a strong first-year environment for students and develop a skill set for success in the workplace.**
- **Establish a comprehensive engineering faculty development program on each SUCCEED campus.**
- **Install continuous curriculum improvement processes that are driven by assessment of the quality of our graduates.**
- **Deploy a network-based collaborative learning environment on each SUCCEED campus.**
- **Identify best practices for the diffusion of educational innovation into engineering curricula.**
- **Market the very best SUCCEED products and processes beyond the Coalition through the establishment of partnerships.**
- **Assess and evaluate the success of our Coalition's activities.**

Part of our core strategy is to measure our progress towards reaching our goal set using the following key **SUCCEED** milestones.

KEY MILESTONES

- Development of an annually-updated strategic plan for implementing the **SUCCEED** curriculum model on each campus.
- 60% of the Coalition Engineering faculty will have participated in the faculty development program by the end of Year 10.
- 50% of the **SUCCEED** academic units will have undergone **SUCCEED**-facilitated curriculum renewal by the end of Year 10.

- Participation of 75% of **SUCCEED** departments in on-going collection of outcome assessment measure collection by the end of Year 10.

- 70% of courses in the **SUCCEED** Colleges of Engineering will incorporate technology by the end of Year 10, with a focus on web-based courseware management tools and empowering faculty to develop electronic-media-based instructional content.

- Implementation of a transition program and a real-world multidisciplinary capstone design experience on each campus.

- A focused number of non-Coalition Colleges of Engineering will have identified a strategy to adopt **SUCCEED**'s innovations.

The core strategies to achieve these goals and reach our milestones are overviewed in the next section.

SUCCEED's Core Strategies

The mission of **SUCCEED** in the next phase of funding is very simple:

SUCCEED Mission: Implement our curriculum model on each of our campuses and facilitate its dissemination beyond the Coalition.

Eight core strategies have been identified to accomplish this mission and are outlined in Table 1. Our central strategy is to enable and empower a **Campus Implementation Team** on each campus to formulate strategic and tactical plans for curriculum renewal and to facilitate their implementation. Through the formation of the **CIT**s, a local leadership team has been established that understands the local needs, is empowered to effect change, and shares the Coalition's vision for curriculum reform.

We believe the eight core strategies listed in Table 1 will lead to implementation of our curriculum model on each of the eight **SUCCEED** campuses and facilitate its dissemination beyond the Coalition. The overview of the strategic plans of each of the four **Coalition Focus Teams**, the eight **Campus Implementation Teams**, the **Assessment and Evaluation Team**, and the **Dissemination Team** are given in the following sections. A more detailed view of **SUCCEED**'s plans is entered into AlliedSignal's total quality management software, ***TQ Soft***.

Table 1. Core Strategies

Strategies	Key Tactics
1. Give responsibility for sustainable and systemic curriculum reform to campus-based teams.	• Establish leadership team (**CIT**) on each campus. • Provide team with Coalition resources and support through Coalition Focus Teams and the A&E Team.
2. Obtain faculty buy-in for our model and empower them to implement it.	• Produce and disseminate faculty development material. • Establish a network-based learning environment. • Give faculty access to assessed and evaluated innovations. • Perform and communicate assessment and evaluation of our model's effectiveness.
3. Install continuous curriculum renewal processes and best practices in academic units.	• Actively disseminate **SUCCEED**'s Curriculum Innovation and Renewal Manual. • Develop, test, and benchmark metrics for student and graduate attributes.
4. Create an active learning environment in which students from diverse backgrounds are able to attain success.	• Substantiate the current research that indicates technology tools significantly enhance the learning of certain groups. • Establish a network-based collaborative environment. • Integrate tested multimedia courseware into curricula. • Develop and test asynchronous learning tools. • Train developers of technology-based learning tools.
5. Coordinate Coalition focus on the scale-up and mainstreaming of first-year-on-campus programs to assist student transition into the University.	• Transport successful Community College Transition programs. • Evaluation existing and test programs Coalition-wide. • Scale up and mainstream test "bridge" programs and expand women and minority peer mentoring programs.
6. Transport and scale up our practice and design products.	• Work with PIs of successful products to actively disseminate innovation. • Promote Coalition-wide links with industry.
7. Actively disseminate our curriculum model and its components beyond the Coalition through focused partnerships.	• Work closely with selected schools (Council of Schools) to implement our curriculum model. • Develop and execute dissemination plans for very best products/processes. • Promote access to **SUCCEED**'s products and processes through the Internet. • Establish partnerships with industry and other Coalitions.
8. Convince the engineering education community of the value of our model and its components.	• Perform ongoing Coalition-wide qualitative assessment. • Continue building a longitudinal database for quantitative assessment. • Research the diffusion of educational innovation.

Faculty Development CFT Strategic Plan Overview

Vision Beyond SUCCEED

Establish a comprehensive and sustainable engineering faculty development program on each SUCCEED campus with each of the following six key components: personnel and resources for coordination of FD within engineering, ongoing learning opportunities for all faculty, specific programs for new faculty, specific programs for graduate students, faculty rewards and incentives for effective and innovative teaching, and strong linkages between engineering FD and existing campus teaching centers.

Over-Arching Strategies

- Offer a variety of coalition-wide FD activities that can serve as models for campus FD programs.
- Identify and provide educational opportunities and materials to teaching leaders from each campus, equipping them to lead local campus FD workshops, seminars, and learning communities.
- Support local campus efforts by assembling and creating materials to facilitate effective classroom teaching, course and curriculum reform, mentorships, and teaching support programs.
- Inform administrators, department chairs, and senior faculty about effective teaching practices and ways to reward and support teaching.
- Help link campus faculty development staff with engineering teaching leaders to promote involvement of engineering faculty in university FD activities.

Significant Accomplishments in Year 7

Objective 1: Prepare faculty members to implement effective instructional methods and provide continuing support for their implementation.

- Presented 5 Coalition-wide workshops for 323 faculty from SUCCEED and COS campuses.
- Started the Teaching Leader Network (TLN) mail list to connect leaders from all the campuses.

Objective 2: Promote a campus climate conducive to fulfilling the program mission.

- Compiled a list of teaching incentives and rewards and distributed them at a special session for administrators and mentors at the 1999 SUCCEED Conference.
- Presented 4 teaching leader training events for 57 participants from SUCCEED and COS campuses.

Objective 3: Disseminate new instructional methods, materials, programs, and implementation strategies.

- Organized a Cross-Coalition Faculty Development Conference held in Raleigh, NC on April 6-7, 1999 with representation from five coalitions and the NSF.
- Organized the 1999 SUCCEED Conference with the theme of "Enhancing Teaching and Learning" held in Raleigh, NC on April 8-9, 1999.
- Presented and published (in Proceedings) descriptions of the SUCCEED Faculty Development Model at two engineering education conferences (1998 ASEE and FIE meetings) and two faculty development conferences (1998 ICED and POD meetings).

Objective 4: Assess and evaluate the Coalition-wide faculty development program.

- Surveyed all SUCCEED faculty (503 responses, 32%) in 1998 on teaching practices and perceptions of the importance of teaching in the faculty reward structure.
- Assessed and published (in Proceedings) the results of the 1998 faculty survey at FIE '98.

Faculty Development CFT Core Competencies Matrix

	Coordination of FD in Engr.	Learning Opportunities	New Faculty Programs	Graduate St. Programs	Rewards & Incentives	Linkages w/ Campus FD
CU	-Teaching Effectiveness Comm. in college	-Two annual wkshs. -2 annual seminars/fac. Forums	-Orientation Wksh. series -Fac. Teaching Fellows Prog. to enhance mentoring	-Invite grad. st. to participate in workshops	-Fac. Teaching Fellows Program -Travel support -Inclusion of T'ching in P/T -Evaluate best practices in assessing teaching	-Coordination with new university Office of Teaching Effectiveness and Innovation
FAMU -FSU	-FD Coordinator	-One annual workshop -Locally-led topical workshop -"On Shoulders of Giants" learning community	-Orientation Wksh. -Invite to attend "Program for Instructional Excellence"	-Invite grad. st. to Orientation Wksh. -"Program for Instructional Excellence" (univ.)	-Travel support -$500 grants for innovative teaching methods (travel or materials)	-Coordination with "Program for Instructional Excellence"
Ga Tech	-Part-time position in college to provide input to CETL and develop engr-specific FD	-One annual wksh. -Community of fac. meeting regularly	-Annual Eff. Teaching Wksh. -Encourage new fac. to participate in existing pgms. -Voluntary mentoring prog.	-Program for TA's (univ.)	-Foundation Faculty of the Future Prog. -Inclusion of teaching in P/T and post-tenure reviews	-Representative from each dept. on Board for Center for Enhancement of Teaching and Learning (CETL)
NC A&T	-FD Coordinator in college	-Participation in university prog. Of workshops -Brown-bag discussion group	-Orientation program -Mentor assigned	-Invite grad. st. to participate in workshops	-Travel support -Excellence in teaching awards -Inclusion of teaching in P/T	-No existing teaching center
NC State	-FD Coordinator under direction of Associate Dean	-One annual workshop -COE-Teach (monthly lunchtime discussion group)	-Orientation Wksh. -Mentoring program	-Orientation Wksh. (college)	-Course & curr. re-design grants -Travel support -Plan for inclusion of T'ching in evaluation system	-FD Coordinator represented on Adv. Board for Faculty Center for Teaching and Learning
UFL	-Associate Dean as FD Coord. with 1/4 to 1/2 time staff -FD representative from each dept. (rotating leadership)	-Annual series of workshops & seminars -Brown-bag discussion group - FD web site	-Orientation Wksh. -Teaching workbook -Assignment of mentor	-TA training (univ.)	-Mini-grants -Awards for innovation -Summer support	-Coordination with Center for Excellence in Teaching
UNC-C	-FD Coordinator at college level -Assessment & planning committee to oversee teaching assessment	-One annual wksh. -One annual teaching dialogue -Teaching circles	-Teaching circles -Improved mentoring program	-TA training (univ.)	-Travel support -Summer salary for teaching projects -Improve teaching assessment system	-Coordination with existing groups (Baklava, University Learning Ctr.)
Va Tech	-Chair of T'ching Leaders, ELC -Y11: Assoc. Dean, CEUT Fellows & ELC core members ELC= Engr. Lrning. Comm. FDI= FD Institute. CEUT=Ctr. for Exc. in Undergrad. Tching	-Three annual ELC workshops -ELC Networking mts. every 6 wks. -CEUT & FDI wkshs, seminars, study groups	-Improved mentoring program -Research familiarization prog. -New fac. invited to ELC activities	-TA training by CEUT -TA's invited to ELC activities	-Travel support -Excel. in Teaching awards -Inclusion of t'ching in P/T reviews -Academy of T'ching Excellence -University incentives (grants, computers)	-Strong link of ELC and CEUT -Joint sponsorship of ELC and workshops by SUCCEED and CEUT -Developing ELC / FDI link

Outcomes Assessment CFT Strategic Plan Overview

Year 10 Objectives And Deliverables

Objective 1: Identify, develop and test outcomes assessment measures, tools, and methods for ABET EC 2000 key attributes of engineering graduates.
Year 10 Deliverable: 75% of SUCCEED departments have collected and analyzed outcomes assessment data.

Objective 2: Implement curriculum revision through use and results of outcomes assessment.
Year 10 Deliverable: 75% of SUCCEED departments have reviewed and/or revised curricula based outcomes assessment results.

Vision Beyond Succeed

All engineering degree programs will be reviewed for accreditation under the new ABET EC 2000 guidelines. The vision beyond year 10 funding from NSF is that all degree programs will have in place an efficient and effective process for successfully completing an ABET review relative to Criteria 2 and 3. This process includes setting program educational objectives, identifying measures, tools, and methods to collect data, and finally using the results of the data to improve the curriculum. This vision will be facilitated by research and dissemination efforts of the SUCCEED Outcomes Assessment Coalition Focus Team.

Over-Arching Strategies

- Identifying and testing best practice instruments for measuring EC 2000 a-k outcomes. Examples are the employer feedback instrument and portfolio management.
- Documenting the results of our tested instruments and processes in a notebook available on the web.
- Conducting workshops to lead faculty through the outcomes assessment and curriculum improvement process.
- Documenting SUCCEED-wide results in meeting EC 2000 expectations for the process of outcomes assessment and curriculum improvement.
- Disseminating tested instruments and processes at conferences, campus visits, and journal articles.

Significant Accomplishments For Year 7

Objective 1 and 2 are closely linked together. The strategies and accomplishments for both objectives complement each other.

- Piloted an employer feedback instrument for recent SUCCEED Electrical and Computer Engineering graduates with 3 sites of Lockheed Martin in fall, 1998.
- Identified departments to contribute to a portfolio project at 3 SUCCEED campuses.
- Conducted a workshop in November 1998 for identifying education objectives, measures, tools, and methods for SUCCEED and COS faculty - 42 attended.
- Presented results of SUCCEED OA efforts at 6 national conferences
- Improved the Outcomes Assessment web site.
- Planned a workshop for Curriculum Revision for March 1999; rescheduled for September 1999.
- Participated in 6 Council of Schools visits.

Outcomes Assessment CFT Core Competencies Matrix

	Strategy 1		Strategy 2		Strategy 3	Strategy 4		Strategy 5	
	Employer Feedback Project	Portfolio Project	Assess Use of Capstone Design Instruments	Rewrite or Merge CIR/OA	OA/CIR Workshop	Document OA Efforts	Baldrige Award Application	Proposal on OA Case Study Text	Dissemi-nation
Clemson	✓		✓	✓	✓	✓	✓		✓
FAMU-FSU	✓				✓	✓			✓
Ga Tech	✓	✓			✓	✓	✓	✓	✓
NC A&T	✓				✓	✓		✓	✓
NCSU	✓			✓	✓	✓			✓
UFL	✓	✓		✓	✓	✓			✓
UNCC	✓	✓			✓	✓			✓
VT	✓			✓	✓	✓	✓		✓

Student Transitions CFT Strategic Plan Overview

Vision Beyond SUCCEED

Student Transitions Best Practices. An on-going series of university-funded resource centers, workshops and project activities will be available for all faculty and staff to help in the development of programs and curricula in the initiatives undertaken by the STCFT.

Over-Arching Strategies

The strategic plans, objectives, and assessment targets for the STCFT initiatives are detailed in Attachment 1 (included in this document). The STCFT is the element of the SUCCEED program having the broadest scope. While our initiatives (described in more detail below) vary in their focus, they have three common elements. They describe:

- Identification and description of best practices that can benefit every university;
- Workshops and team meetings designed to bring the experts and prospective champions together so that best practices can be shared and networks can be formed for future interaction;
- Some project activities which are viewed as beneficial across the coalition as opposed to "single campus" benefit projects (which should be elements of CIT programs).

Significant Accomplishments in Year 7

- Five workshops including the entire coalition and representation from universities throughout the nation.
    - Multidisciplinary Design best practices workshop (Y6, 3/98)
    - Co-op student industrial experience best practices (Y7, 2/99)
    - International programs (engineering experience in an international setting) best practices (Y7, 2/99)
    - Student mentoring best practices (Y7, 3/99)
    - Bridge program (transition into 4-year engineering programs) best practices (Y7, 3/99)

- First SUCCEED project initiated to increase retention at the critical "internal transition/gateway" courses at the sophomore level when students enter their major discipline, where the retention is typically 50% or less. Retention improvement to a level of 90% was demonstrated. This project continues with the incorporation of web-suplemented instruction and faculty development best practices (from the FD portion of the SUCCEED program).

- First STCFT website was established to post/share details of SUCCEED transition-in and transition-out program plans and accomplishments.

Student Transitions CFT Core Competencies Matrix (1 of 2)

	Transitions into engineering as a major		
	Mentoring Programs	**Bridge Programs**	**Curriculum (Freshman/Sophomore)**
Clemson	• Initiate peer mentoring (7) • Expand peer mentoring (8) • Workshop (8) • Finalize program (9) • Institutionalize (10)	• Establish internal bridge program • Develop and complete internal bridge program	• Import and modify E101-102 (7) • Complete 101/2 • Integrated first year • Initiate (8) • Complete (9) • Assess (10)
FAMU-FSU	• FITC and community college transfer program • ST workshop	• ST workshop	
GmA Tech	• Establish internal bridge and mentoring program		• Establish first year program
NC A&T	• Vision program (7) • Starter program (7) • College-wide coordination (8)	• Establish bridge program (7)	• First year core program completed
NCSU	• Start (6) • Women Engineering Network – WEB (7)	• STP (6) • Pre-college outreach	• Intro to engineering: 1100 students (7) • Institutionalize Intro to Engineering (8) • Writing and Speaking (8)
U of Florida		• Community College: completed	• Integrated engineering, math chemistry & physics
UNC Charlotte	• Establish engineering recruiting program • Improve advising and tracking • Institutionalize engineering database	• New mentoring program (6) • Create MAPS program (8) • Assess MAPS	• Increase F.I.E. • Formalize international opportunities (7) • Add alumni to advisory boards
VA Tech	• Implement and improve (7-10) • Assess (9)	• Incorporate problem solving into existing program (7) • Assess (9)	• Lab for 100 (7) • Calculus emphasis incorporated into labs (8) • Create manuals (9) • Integrate laboratory and computation tools (10)

Student Transitions CFT Core Competencies Matrix (2 of 2)

	Transitions out of college into the profession	
	Multidisciplinary Design (MD)	**Engineering Practice**
Clemson	• Create MD in 3 departments (7) • Expand MD (8) • Finalize MD instruction (9) • MD manual (10)	• Expand Co-Op and international studies programs (7) • Assess (8)
FAMU-FSU	• ST workshop	• ST workshop
GA Tech	• Effort concluded (previous implementation)	• Co-Op 45% students (7) • Expand Co-Op program (8-10)
NC A&T	• MD instruction ongoing in 3 departments as of Y7 • Establish faculty incentives and rewards for MD implementation	• Increase awareness (7) • Seek 80% student participation in Co-Op and International program by Y10
NCSU	• Develop models (8) • Encourage MD implementation (9-10)	• Co-Op and Study Abroad programs existing a/o Y7 • Expand program participation (8-10) • Engineering student leaders (7)
U of Florida	• IPPD exists a/o Y7 • Institutionalize & publicize (8-10)	• QIP 25% student participation a/o Y7 • Expand QIP participation (8-10) • Import EPIC
UNC Charlotte	• MAPS for all learning communities (8) • Assess MAPS	• Increase F.I.E. • Formalize Internal Study opportunities (7) • Add Alumni to advisory boards
VA Tech	• Virtual Corporation (8) • Hands-on lab (7-9) • Mechatronics (8-10) • Expand infrastructure (8-10)	

Technology-Based Curriculum Delivery CFT Overview

Vision Beyond SUCCEED

Establish a comprehensive and sustainable program to integrate the use of technology into the engineering teaching/learning environment on each SUCCEED campus. This includes: programs to train faculty in both the mechanics as well as effective techniques for the use of technology, programs to integrate assessment with the use of technology, pilot programs to investigate how advances in technology can be incorporated on an ongoing basis, and a strong connection to campus technology plans.

Over-Arching Strategies

- Provide training for individuals who will return to their local campus and train local faculty.
- Study the methods and techniques for using new technology-based education tools, develop / document best practices; disseminate through workshops / technology-based presentations.
- Leverage faculty TBCD development time by sharing courseware modules.
- Increase the awareness of the effectiveness of the use of technology so as to influence faculty participation and the reallocation of resources and faculty rewards.
- Make use of industrial/commercial knowledge, experience, and resources in order to leverage SUCCEED resources.
- Seek external funding to continue collaborations established in the TBCD CFT beyond the end of the NSF funding.

Significant Accomplishments

Objective 1: Substantially enhance teacher-student and student-student communication using network-based collaborative environments for academic interaction.

- Completed faculty survey regarding use of technology; received
- Started 12 new pilot programs investigating the use new technology tools.
- Disseminated results of earlier technology projects.
- Began collaboration between two schools to develop common courseware.

Objective 2: Empower faculty to develop electronic media-based instructional content.

- Completed templates for use in developing uniform technology-based presentations.
- Presented 4 coalition workshops for 97 faculty on various technology development topics.
- Began development of a CD-based video presentation on exemplary technology-based teaching techniques.

Objective 3: Use networking technologies to improve management operations throughout the Coalition.

- Continuously refined the process of videoconferencing for use in coalition management including the development of a mechanism for queuing user interaction.

Technology-Based Curriculum Delivery CFT Core Competencies Matrix

	Faculty Learning Opportunities	Pilot/Demo projects	IT Instantiation and sharing	On-campus Facilities Development	Assessment of effectiveness	Use video-conferencing in teaching	Level of Partici-pation
Clemson	Data not available at time of publication						
FAMU—FSU	attendance at IT Workshops / Conf., Instructional Media Staff to support faculty dev., Annual Summer Tech. Workshops, Inventory of Technology Best Practices	Development of CDs to support classroom instruction, Introduction to Engineering as distance learning course	Team approach for web-based distance learning course - Introduction to Engineering	Video Conferencing System, Real Video Streaming Server, AVID Nonlinear Editing System,	Faculty Survey, Deliverables-Inventory of Best Practices, Campus Based Technology Inventory	Cooperative Graduate Course with Carnegie-Mellon	70% faculty engaged in IT professional development activities, 70% of faculty using courseware management tools
Ga Tech	Data not available at time of publication						
NC A&T	Several faculty have attended each of the SUCCEED-sponsored workshops. Most of these faculty are part of a group that meets biweekly to discuss best practices.	We have implemented course modules in Mallard and WebCT. Student feedback is being collected and will be used to direct further experimentation	The university has created an Associate Vice Chancellor for Information Technology. The TBCD campus leader has met with that organization. Course support tools / standards will be developed this summer.	The tele-video center continues to provide support for our distance learning efforts (microwave-, ATM, ISDN- & Internet-based). Additionally we are developing a facility to support experimentation with course development tools.	Student opinion questionnaires are being used to evaluate the courses delivered. A specialized survey has been developed to assess the effectiveness of course tools.	One course was delivered entirely using distance learning last semester. The instructor was in Korea. A new graduate course in Architectural Engineering has started and will be delivered using DL.	25% of our faculty are involved in TBCD development activities. A similar number are actively using technology to support curriculum delivery.
NCSU	Learning Technology Services Service (LTS) workshops and short courses; Faculty Center for Teaching and Learning (FCTL) programs and seminars	Project 25; MBone Virtual Classroom pilot project		H.320 conferencing facilities; NCREN conferencing facilities; MBone classroom; Multicast-enabled network; Integ. of RealMedia capture into vid. classrms.	SUCCEED faculty survey; MBone pilot project evaluation; Project 25 evaluation	Project 25 evaluation; video-on-demand lectures; Real Media webcasts	email 100%; word proc., spreadsheets 99%; web-based course materials 60%; appl. software 50%; power point 50%
UFL	Joint FD/TBCD Workshops. Attendance of Faculty at TBCD / FD CFT workshops. Attendance by faculty at other technology confs./ wkshps.	ECE and ChE usage of WebCT as well as University-wide support of WebCT. ECE development of ALN streaming lectures	In-class simulations for DSP with student groups collaborating and interacting via computers in class. Electronic books	ECE streaming media lab. Video conferencing via ISDN. Video conferencing via H.323 over the Internet.	Student and Instructor surveys. Student feedback incorporated into the development. University-wide Instructional design	Shared Courses with VT. Classes taught to Motorola.	50% of Eng. Course have Technology components
UNCC	Faculty Demonstrations of Course Management Tools, Workshops on use of Discussion Forums	Real Education used for supplemental courseware in ECE Network Theory, Web Course in a Box deployed for experimental use	Discussion Forums used for team project discussions in Intro. to Engineering.	MBONE classroom facility established, staff support for DL developed, streaming video server implemented	Student surveys in technology enabled courses , faculty feedback on Web support tools.	Development of VTC capabilites (chat, whiteboard, application sharing) for student led supplemental instruction.	Courses using: computing - >80%, email - 50%, web sites - 20%
VT	Data not available at time of publication						

Assessment & Evaluation CST Strategic Plan Overview

Vision Beyond SUCCEED

Adoption by SUCCEED institutions of developed and demonstrated processes and procedures for qualitative and quantitative assessment and evaluation of educational program development for purposes of reporting progress and outcomes and promoting continuous program improvement.

Over-Arching Strategies

The goal of the Assessment & Evaluation Coalition Service Team is to provide independent professional assessment and evaluation to objectively determine the progress of SUCCEED in the achievement of its stated goals and milestones and to provide feedback from this process to assist the Coalition in the continuous improvement of its program efforts. The key strategies employed in achieving this goal are:

- develop and carry out the assessment and evaluation process by a team whose membership includes professionals trained and experienced in the formal and proven techniques of both subjective and objective assessment and evaluation.
- employ both qualitative and quantitative means and measures to conduct the assessment and evaluation functions.
- use formative assessment procedures to provide feed back for continuous improvement of ongoing operations and summative assessment methods for determining and documenting program outcomes.
- derive authority to conduct the required assessment and evaluation activities directly from the leadership of the Coalition.

Significant Accomplishments

Qualitative Campus Case Studies

- Complete cycle of 2-3 day assessment site visits to all eight campuses accomplished
- Individual campus reports prepared for campus CIT leaders and the Coalition Director
- Campus CIT leaders have or will submit a response to the report
- Interim Report of visits prepared and shared with the NSF, Coalition leadership, and Deans
- Final summary report covering all eight campuses in preparation

Quantitative Performance Studies

- Longitudinal Database (LDB) updated for 1997 and being updated for 1998
- Graduation percentage study by institution and engineering discipline completed
- Second year retention study by gender for engineering and non-engineering students completed
- Annual report comparing SUCCEED and national enrollments and numbers of graduates updated
- Report of 1997 Student Climate Study published and distributed

A&E Assistance

- Assisted Faculty Development in development, administration, and analysis of a faculty survey
- FD survey results published and distributed and prepared for publication/presentation
- Assisted Technology Based Curriculum Delivery in surveying technology needs and interests

Special Projects

- Six product dissemination case studies completed
- Report of the first three case studies published and distributed, remaining in progress
- Papers submitted for publication/presentation
- Dissemination case studies used to identify projects for special dissemination efforts

Dissemination CST Strategic Plan Overview

Vision Beyond SUCCEED

Dissemination is a key effort for the future of Years 8-10 and beyond. Many of our efforts have been extremely successful and will be continued. The distribution of our best products and courseware on CD-ROMs has made a large impact in the educational arena. CD-ROMs will continue to be created and distributed containing products and courseware potentially evolving into online courses. Our Council of Schools effort has also been very successful and needs to be continued. The interaction is relatively low cost, involving an initial visit followed by more focused interactions. Increasing the number of Council of Schools members to a larger educational research community will be considered. Also, additional methods of sustainable cooperation will be investigated. The SUCCEED website will continue to be a primary form of dissemination for the years beyond SUCCEED. The web, by its nature, is distributed. This makes it very effective for all members of SUCCEED to share educational developments and efforts. The website will be maintained by distributing the efforts so that each group will be responsible for maintaining its information. The site is already an important place to go for seeking engineering education information. Kept up to date, it can continue to be a good dissemination tool for a reasonable cost.

Over-Arching Strategies

To continue to provide dissemination assistance and mechanisms for SUCCEED Principal Investigators to disseminate products and processes created with SUCCEED assistance

- Creation of CD-ROM's for widespread distribution a major conferences
- Assistance to PI's as to the most effective models for dissemination

Focused Dissemination to a number of partner schools and organizations

- Continue the Council of Schools as the primary mechanism of focusing our dissemination efforts to achieve a high impact and to be able to assess our efforts
- Create a limited number of international partnerships
- Maintain a leadership role in the Inter-Coalitions Liaison Board

Maintain and improve dissemination efforts to the community at large through electronic means, conference participation and *The Innovator*

- Maintain / improve the SUCCEED Web page as the primary world-wide dissemination
- Institute a review process for the material on the WWW site
- Continue leadership in the creation and maintenance of a Product Directory
- Participate in any nationwide electronic data-base efforts that are presently funded (NEEDS) or that may arise from sponsorship by NSF
- Continue to fund and distribute the SUCCEED newsletter, *The Innovator*

Significant Accomplishments in Year 7

- SUCCEED and Cross-Coalition efforts widely published in journals and conference proceedings, including a best paper at the 1998 Frontiers in Education conference
- Faculty Development Cross-Coalition conference hosted by SUCCEED in 1999
- SUCCEED faculty served as authors, presenters, and organizers of ICEE 98
- SUCCEED's programs are becoming targets of Alumni Giving
- Six Council of Schools member institution visits and two general meetings held
- Three issues of *The Innovator* produced; over 12,000 copies distributed to national mailing list, member schools, Council of Schools institutions, and at conferences
- Over 1500 SUCCEED "Greatest Bits Volume I" CDs distributed

Clemson University Strategic Plan Overview

Vision Beyond SUCCEED

Clemson will have institutionalized SUCCEED-fostered innovations, including:

- ***Faculty Development.*** Frequent workshops and seminars will help faculty improve teaching effectiveness; participation in national and regional teaching improvement programs will be supported; outstanding teaching will be recognized and rewarded.
- ***Outcomes Assessment.*** Systematic and effective outcomes assessment will support regular program review leading to continuous curriculum improvement. Programs will have clear and regularly updated objectives based on input from all major constituencies.
- ***Student Transitions.*** Mentoring and counseling programs will support the success of all entering students. Freshman courses will be explicitly linked, and include meaningful engineering problem solving and design. Curricula will provide key workplace skills, include real-world experiences, and engage students in multidisciplinary activities.
- ***Technology Based Curriculum Delivery.*** Faculty will routinely use computer presentation and networked collaborative tools to enrich the learning environment. Asynchronous teaching methods will make courses available to distant learners such as students on co-op assignments, students preparing for transfer, and graduates pursuing life-long learning.

Over-Arching Strategies

- CIT objectives and tasks must be consistent with the Strategic Plan of the College;
- SUCCEED activities must leverage university resources and initiatives wherever possible;
- Clemson programs must support the SUCCEED goals and deliverables.

Significant Accomplishments in Year 7

Built upon SUCCEED innovations in years 1-5, key accomplishments in years 6-7 include

Faculty Development

- Seven faculty forums/workshops for College of Engineering and Science faculty
- Orientation to Teaching workshop for new CES faculty established

Outcomes Assessment

- All engineering programs established objectives, implemented outcomes assessment
- SUCCEED curriculum innovation and renewal, ABET 2000 processes integrated

Student Transitions

- Freshman engineering courses overhauled with more hands-on engineering content
- Multidisciplinary Design program extended to IE and new industry sponsors added

Technology Based Curriculum Delivery

- Laptop Pilot Program provides Universal Computing Environment
- Collaborative learning environment tools now easily available to all CES faculty

Clemson CIT Faculty Development Institutionalization Timetable

	SUCCEED-sponsored activity	College or dept.-sponsored activity
Year 6	- Integrated Freshman Year forum	- Active learning workshop - Asynchronous Learning seminar
Year 7	- Orientation to Teaching Workshop - Topical seminar/faculty forum - Faculty Teaching Fellow - Topical workshops (2)	- Topical seminar/faculty forum - Attendance at NETI
Year 8	- Orientation to Teaching workshop - Faculty Teaching Fellow	- Topical seminar/faculty forum - Attendance at NETI
Year 9	- Orientation to Teaching Workshop - Faculty Teaching Fellow	- Topical seminar/faculty forum - Attendance at NETI
Year 10	- Faculty Teaching Fellow - Orientation to Teaching Workshop	- Topical seminar/faculty forum - Attendance at NETI
Year 11		- Faculty Teaching Fellow - Attendance at NETI - Orientation to Teaching Workshop - Topical workshop - Topical seminar/faculty forum

Clemson CIT Outcomes Assessment Institutionalization Timetable

	SUCCCEED Sponsored Activity	University/College/Program Activity
Year 6	– Develop engineering alumni survey inserts to gather OA data – Develop employers of engineering alumni survey to gather OA data, and conduct employer survey – Develop program evaluation and assessment processes for each BS engineering program	– Conduct alumni survey – Program faculty participate in development of employers survey to gather OA data – Program faculty participate in development of engineering program evaluation and assessment processes for each BS engineering program, and application of processes
Year 7	– Refine engineering and computer science alumni survey inserts to gather OA data – Refine employers of engineering and computer science alumni survey to gather OA data, and conduct employer survey – Refine engineering program evaluation and assessment processes for each BS engineering program – Develop best OA indicators database – Refine the Curriculum Innovation and Renewal Process in two test applications	– Conduct alumni survey – Program faculty participate in refinement of employers of engineering and computer science alumni survey to gather OA data – Program faculty participate in refinement of engineering program evaluation and assessment processes for each BS engineering program, and application of processes
Year 8	– Conduct survey of employers of engineering and computer science alumni to gather OA data – Refine best OA indicators database – Apply the refined Curriculum Innovation and Renewal Process in two programs	– Conduct alumni survey – Ongoing use of evaluation and assessment processes in each BS engineering/computer science program. – Ongoing curriculum innovation and renewal in two BS engineering/computer science programs using the SUCCEED process
Year 9	– Conduct survey of employers of engineering and computer science alumni to gather OA data – Refine best OA indicators database – Apply the refined Curriculum Innovation and Renewal Process in two programs	– Conduct alumni survey – Ongoing use of evaluation and assessment processes in each BS engineering/computer science program. – Ongoing curriculum innovation and renewal in four BS engineering/computer science programs using SUCCEED process
Year 10	– Conduct survey of employers of engineering and computer science alumni to gather OA data – Apply the refined Curriculum Innovation and Renewal Process in two programs	– Conduct alumni survey – Maintain best OA indicators database – Ongoing use of evaluation and assessment processes in each BS engineering/computer science program. – Ongoing curriculum innovation and renewal in six BS engineering/computer science BS program using SUCCEED process
Year 11		– Conduct alumni survey – Survey of employers of engineering and computer science alumni to gather OA data – Maintain best OA indicators database – Ongoing use of evaluation and assessment processes in each BS engineering/computer science program. – Ongoing curriculum innovation and renewal in each BS engineering/computer science program using SUCCEED process

Clemson CIT Student Transitions Institutionalization Timetable

	ACTIVITIES	
	SUCCEED-sponsored	**College or Dept.- sponsored**
Year 7	• Revise ENGR 101 • Revise ENGR 120 • Initiate peer-mentoring prog. • MultiDiscip. Design course • Expand international/co-op	• Assessment of international/co-op efforts • Assessment of peer-mentoring program
Year 8	• Complete ENGR 101 rework • Complete ENGR 120 rework • Phase II peer-mentoring program • Expand MDD course • Initiate integrated first year program • Establish internal transitions framework	• ENGR instructor workshop (1) • *Storage space procured for ENGR class materials* • Mentor workshops (2) • Initiate assessment of ENGR rework • Continue assessment of international/co-op efforts • Evaluate MDD progress
Year 9	• Complete ENGR manuals & use in classes • Finalize peer-mentoring • Continue integrated first year activity • Establish MDD at final level • Complete formal internal transition program	• ENGR instructor workshop (2) • *Storage space expanded for ENGR class materials* • Mentor workshops (2) • Continue assessment of ENGR rework and international/co-op • Initiate peer-mentoring assessment
Year 10	• Complete integrated first year program design • Develop MDD "Instruction Manual" to aid future instructors • Minimal support for peer-mentoring • Use ENGR manuals in classes	• ENGR instructor workshops (2) • *Begin baseline purchase of items for ENGR design activities* • Mentor workshops (2) • Continue peer-mentoring program • Continue assessment of ENGR rework • Initiate assessment of integrated first year • Continue peer-mentoring assessment
Year 11		• ENGR instructor workshops(2) • *Continue purchase of items for ENGR design activities* • Mentor workshops (2) • Continue assessment of ENGR rework • Continue assessment of integrated first year • Continue assessment of international/co-op • Continue assessment of peer-mentoring

Clemson CIT Technology-Based Curriculum Delivery Institutionalization Timetable

	SUCCEED-sponsored Activity	College/Department-sponsored Activity
Year 6	• Universal computing environment pilot study • Distance collaboration for student projects • Technical support for ALN	• Universal computing environment pilot • Evaluation of course management tools • Initial classroom trials of course management tools • Workshop on WebCT
Year 7	• Universal computing environment pilot study • Distance collaboration support • Technical support for ALN • Sharable ALN modules • Develop mentor program • Develop student assistant program (STARS) • Streaming media workshop	• Universal computing environment pilot • Develop training materials for course management tools • Web-based tutorials for TBCD • Cultivate user groups • Support of course management tools • Workshop on WebCT • Mentor program • STARS program
Year 8	• Upgrade Educational Technology Laboratory • Universal computing environment pilot • Digital media workshop • Assess training needs for TBCD tools for group project activities • Sharable ALN modules	• Universal computing environment pilot • Improve campus networking infrastructure (Internet 2) • Promote faculty use of Ed Tech Lab • Coordinate faculty training with DCIT • Support user groups • Support of course management tools • Mentor, STARS programs
Year 9	• Mentor training workshops • Topical workshops • Upgrade Ed Tech Lab • Sharable ALN modules • Explore use of emerging high-bandwidth networks	• Universal computing environment • Improve computing facilities • Promote faculty use of Ed Tech Lab • Explore use of high-bandwidth networks • Support of course management tools
Year 10	• Sharable ALN modules • Topical workshops • Demonstrate using high-bandwidth networks for TBCD • Contribute to "best-practices"	• Universal computing environment • Upgrade Educational Technology Laboratory • Expand use of ALN using high-bandwidth networks
Year 11		• Educational Technology Laboratory • Universal computing environment • Smart classrooms • Course management tools • User groups • TBCD mentors • Topical workshops

Vision Beyond Succeed

Faculty Development – As we go beyond year 10, the College will assume the responsibility for continued support. We trust that in the 8-10 transition years a sufficient number of faculty will have been involved with faculty development and innovative teaching to ensure that College support will be a natural and expected outcome. A collaborative effort has been initiated, and will continue, with the Technology Based Curriculum Delivery team members to strengthen faculty support and development and to facilitate the infusion of technology in teaching and learning activities.

The elements of our program for year 10 and beyond include: 1) a clearly assigned administrative responsibility for faculty development at the Associate Dean level, a designated FD coordinator for the College who reports to the designated administrator, and resources to support FD activities. The FD coordinator will also coordinate activities with the TBCD group; 2) ongoing learning opportunities for all engineering faculty; 3) rewards and incentives for effective and innovative teaching.

Outcomes Assessment – By Year 10, each BS program will have stabilized its assessment scheme. The CIT OA team will carry out "Alumni Performance Surveys" for all BS programs in Year 10. Thereafter, an OA coordinator will continue beyond Year 10 to coordinate these surveys for all BS programs. By Year 10, all BS program curriculum committees will have had adequate training and experience in the use of "student learning portfolios." Beyond Year 10, an OA coordinator will hold regular seminars to update expertise in the use of student learning portfolios.

Student Transitioning – By the end of Year 10, the first year course will have become a standard component of all BS programs. Multi-disciplinary design courses employing contemporary technology-based tools and industry support will be available in all BS programs, and will be coordinated by the Office of Research and Industry Services of the college. Mentoring schemes will have been built into the BS programs in meeting EC 2000.

Technology-Based Curriculum Delivery – A TBCD team in collaboration with an FD team will continue to work to strengthen and facilitate faculty in infusing technology into teaching and learning activities. An annual hands-on "TBCD-FD Update Workshop" will be held every summer as a regular part of FAMU-FSU culture. This annual workshop will be an item of SUCCEED implementation that has become institutionalized.

Faculty will be given suitable recognition (through, for example, feature articles in a FAMU-FSU TBCD-FD Newsletter and travel cost supplements) for using technology as a means of achieving teaching excellence and learning effectiveness. As a result, faculty should regularly use technology to facilitate and manage collaborative learning environments in which interdisciplinary instruction and teamwork are institutionalized.

Over-Arching Strategy

Faculty Development and TBCD shall be directed at faculty and staff in their capacity as "shop-floor specialists" in the engineering education process, while Outcomes Assessment and Student Transitioning shall be directed at department chairs, associate department chairs, and curriculum committees in their capacity as "product quality coordinators".

To effect institutionalization, continuous upgrading of human resources shall be given a high premium. This means that training schemes shall be provided as a component of most implementation tasks. Accordingly, numerous training workshops, along with recordings of workshop components, shall be provided. The recordings shall be in the form of 30-minute clips on the Web. Such clips should be especially useful to those unable to attend the workshops.

Significant Accomplishments in Year 7

Faculty Development

- Workshop on Process Education (presented by Dan Apple) (June 97)
- Learning-community type workshop titled "On the Shoulders of Giants" (1998)
- Conducted a New Faculty Teaching Workshop (1998).
- Hosted SUCCEED-wide Effective Teaching Workshop (1998)
- Implemented an annual incentive and awards program for effective teaching – Five awards of $500 to faculty who adopt innovating effective teaching methods (1998)
- Sent several teaching leaders to SUCCEED and other teaching workshops (1997-99)
- Coordinate efforts with Technology Based Curriculum Delivery program (1998-99)
- Utilize the Florida State University Program for Instructional Excellence in preparing in preparing our graduate Teaching Assistants.

Outcomes Assessment

- Faculty participated in all SUCCEED-wide OA Workshops – 1997/98 & 1998/99
- FAMU-FSU College Curriculum Committee and CIT met jointly Spring 1998 and Fall 1998 to spearhead a review of all BS degree programs for ABET EC 2000
- CIT recommended a template to all departments that they may use to organize their efforts to meet ABET EC 2000 in the spirit of SUCCEED Curriculum, Spring 1999

Student Transitioning

- CIT and College joint curriculum committee formulated framework for meeting ABET EC 2000 criteria, with special attention to student transition aspects
- FAMU-FSU piloted offering of a first year course
- Ad Hoc Committee reviewed offering, made recommendations for institutionalization
- FAMU-FSU piloted real-world multi-disciplinary collaborative design course

Technology-Based Curriculum Delivery

Local Workshops:

- HTML Workshop – 1997/98
- Web CT Workshop – 1997/98

SUCCEED-wide Workshops

- Technology Showcase (with FD Workshop) - 1998/99
- Presentation on synchronized audio and video for delivery of course material on web (with FD Workshop) – 1998/99

Other

- Development of a template to allow faculty to build course web pages easily
- Hiring of a staff member to assist faculty in using technology
- Videoconferencing a Carnegie Mellon class

FAMU-FSU CIT Faculty Development Institutionalization Timetable

	SUCCEED Sponsored Activitiy	College or Dept. Sponsored Activity
Year 8	Annual FD Workshop (Summer) Topical workshop series (Fall & Spring) Provide incentives/awards Faculty participation in FD conferences (all year) Participation in FD CFT programs (all year)	Topical workshop series (Fall & Spring) Provide incentives/awards Faculty participation in FD conferences (all year)
Year 9	Annual FD Workshop (Summer) Topical workshop series (Fall & Spring) Provide incentives/awards Faculty participation in FD conferences (all year) Participation in FD CFT programs (all year)	Topical workshop series (Fall & Spring) Provide incentives/awards Faculty participation in FD conferences (all year)
Year 10	Annual FD Workshop (Summer) Topical workshop series (Fall & Spring) Provide incentives/awards Faculty participation in FD conferences (all year) Participation in FD CFT programs (all year)	Topical workshop series (Fall & Spring) Provide incentives/awards Faculty participation in FD conferences (all year)
Year 11	Annual FD Workshop (Summer) Topical workshop series (Fall & Spring) Provide incentives/awards Faculty participation in FD conferences (all year) Participation in FD CFT programs (all year)	Annual FD Workshop (Summer) Topical workshop series (Fall & Spring) Provide incentives/awards Faculty participation in FD conferences (all year) Participation in FD CFT programs (all year)

FAMU-FSU CIT Outcomes Assessment Institutionalization Timetable

	SUCCEED Sponsored Activitiy	College or Dept. Sponsored Activity
Year 8	Centralized Alumni Performance Surveys Training in use of portfolio for assessing "Student Learning Tasks" Faculty participation in OA conferences Participation in OA CFT programs	Centralized Alumni Performance Surveys Training in use of portfolio for assessing "Student Learning Tasks" Faculty participation in OA conferences Participation in OA CFT programs
Year 9	Centralized Alumni Performance Surveys Training in use of portfolio for assessing "Student Learning Tasks" Faculty participation in OA conferences Participation in OA CFT programs	Centralized Alumni Performance Surveys Training in use of portfolio for assessing "Student Learning Tasks" Faculty participation in OA conferences Participation in OA CFT programs
Year 10	Centralized Alumni Performance Surveys Training in use of portfolio for assessing "Student Learning Tasks" Faculty participation in OA conferences Participation in OA CFT programs	Centralized Alumni Performance Surveys Training in use of portfolio for assessing "Student Learning Tasks" Faculty participation in OA conferences Participation in OA CFT programs
Year 11		Centralized Alumni Performance Surveys Training in use of portfolio for assessing "Student Learning Tasks" Faculty participation in OA conferences Participation in OA CFT programs

FAMU-FSU CIT Student Transitions Institutionalization Timetable

Year	SUCCEED Sponsored Activity	FAMU-FSU Sponsored Activity
8	• ST workshops • Faculty course and lab development support • Support faculty visitations to industry for sustaining funding and recruiting industry mentors for multi-disciplinary design courses • Support faculty travel to conferences and workshops on ST focus areas	• ST workshops • Faculty course and lab development support • Support faculty visitations to industry for sustaining funding and recruiting industry mentors for multi-disciplinary design courses • Support faculty travel to conferences and workshops on ST focus areas
9	• ST workshops • Faculty course and lab development support • Support faculty visitations to industry for sustaining funding and recruiting industry mentors for multi-disciplinary design courses • Support faculty travel to conferences and workshops on ST focus areas	• ST workshops • Faculty course and lab development support • Support faculty visitations to industry for sustaining funding and recruiting industry mentors for multi-disciplinary design courses • Support faculty travel to conferences and workshops on ST focus areas
10	• ST workshops • Faculty course and lab development support • Support faculty visitations to industry for sustaining funding and recruiting industry mentors for multi-disciplinary design courses • Support faculty travel to conferences and workshops on ST focus areas	• ST workshops • Faculty course and lab development support • Support faculty visitations to industry for sustaining funding and recruiting industry mentors for multi-disciplinary design courses • Support faculty travel to conferences and workshops on ST focus areas
11	•	• ST workshops • Faculty course and lab development support • Support faculty visitations to industry for sustaining funding and recruiting industry mentors for multi-disciplinary design courses • Support faculty travel to conferences and workshops on ST focus areas

FAMU-FSU CIT Technology-Based Curriculum Delivery Institutionalization Timetable

	SUCCEED Sponsored Activitiy	**College or Dept. Sponsored Activity**
Year 8	TBCD Workshops Staff for technology support Incentives/awards	Inventory of best practices FAMU-FSU TBCD-FD newsletter Start of business partnership for videoconferencing distance learning
Year 9	TBCD Workshops Staff for technology support Incentives/awards	Inventory of best practices FAMU-FSU TBCD-FD newsletter Start of business partnership for videoconferencing distance learning
Year 10	TBCD Workshops Staff for technology support Incentives/awards	Inventory of best practices FAMU-FSU TBCD-FD newsletter Start of business partnership for videoconferencing distance learning
Year 11		TBCD Workshops Staff for technology support Incentives/awards Inventory of best practices FAMU-FSU TBCD-FD newsletter Start of business partnership for distance learning

Georgia Institute of Technology CIT Strategic Plan Overview

Vision Beyond SUCCEED

Georgia Tech's vision for Year 10 and beyond in the four focus areas of SUCCEED can be characterized as follows.

- *Faculty Development* – An on-going series of workshops and activities will be available for all Georgia Tech faculty to facilitate their continued development in all aspects of their academic careers.
- *Outcomes Assessment* – Georgia Tech will have an outcomes-based assessment program for all its educational programs, both graduate and undergraduate, involving an annual evaluation of assessment activities and a five year comprehensive program review.
- *Student Transitions* – Georgia Tech will have available an array of programs to assist all students with the initial transition to campus life, on-going transitions during their program of study, and transition to their post-graduation careers.
- *Technology-Based Curriculum Delivery* – Faculty productivity in the use of educational technology will be more broad-based, and student expertise in the use of technology-based learning materials will be substantially increased.

Over-Arching Strategies

The strategic plans, objectives, and assessment targets for the four focus areas are outlined in the following four sections. While the areas differ in their focus, they have three common elements. They describe activities that:

- will occur at least once a year, if not more frequently;
- build upon on-going efforts at Georgia Tech; and
- complement activities within the other focus areas.

Significant Accomplishments in Year 7

Faculty Development

- Effective Teaching Workshop hosted; faculty participated in other SUCCEED and national workshops.
- Partnership with the Center for the Enhancement of Teaching and Learning established.

Outcomes Assessment

- Full-time Director of Assessment hired.
- Engineering Education Assessment Seminar established and meeting monthly.

Student Transitions

- Dual Degree transition program established.
- CHALLENGE program broadened to include all student groups.

Technology-Based Curriculum Delivery

- Video-conferencing facility brought on-line; used for SUCCEED meetings and disseminating SUCCEED results to others.
- Technology-based teaching/learning faculty group meets weekly.

Georgia Tech CIT Faculty Development Institutionalization Timetable

	SUCCEED-Sponsored Activities	*Institution-Sponsored Activities*
Years 6 -7	- Effective Teaching Workshops - Teaching w/Technology Workshop - Mentoring Seminars - Partnership w/CETL - GE Foundation Program	- Effective Teaching Workshops - Teaching w/Technology Workshop - Mentoring Seminars - Partnership w/CETL - GE Foundation Program
Years 8-10	- Effective Teaching Workshops - Other FD Workshops - Mentoring Seminars/Program - COE FD Coordinator - CETL FD Steering Group - Intra-/Inter-Campus Network	- Effective Teaching Workshops - Other FD Workshops - Mentoring Seminars/Program - COE FD Coordinator - CETL FD Steering Group - Intra-/Inter-Campus Network
Year 11		- Effective Teaching Workshop & Other Workshops as Designed by CETL - COE Coordinator - Intra-/Inter-Campus Network - Mentoring Seminars

Georgia Tech CIT Outcomes Assessment Institutionalization Timetable

	SUCCEED-Sponsored Activities	*Institution-Sponsored Activities*
Years 6-7	- GT Eng. Educ. Assess. Seminar - Institute Assessment Director	- GT Eng. Educ. Assess. Seminar - Institute Assessment Director
Years 8-10	- GT Eng. Educ. Assess. Seminar - Integrated, campus assessment effort - Assess pre-/non-engineering courses - Create psychometric profile - Establish common data sets	- GT Eng. Educ. Assess. Seminar - Integrated, campus assessment effort - Assess pre-/non-engineering courses - Create psychometric profile - Establish common data sets
Year 11		- Integrated, campus assessment effort - Assessment administrative structure/oversight - Systematic data-gathering - GT Assessment Seminar

Georgia Tech CIT Student Transitions Institutionalization Timetable

	SUCCEED-Sponsored Activities	*Institution-Sponsored Activities*
Years 6 -7	- CHALLENGE Broadened - Dual Degree Transition Program - Extended Fr. Transition Prog. Designed - Transition Performance Stds Created - Pilot Design Competition	- CHALLENGE Broadened - Dual Degree Transition Program - Extended Fr. Transition Prog. Designed - Transition Performance Stds Created - Pilot Design Competition
Years 8-10	- Campus-wide CHALLENGE - Extended Fr. Transition Prog. - Freshmen Design Course - Transition Performance Measured - Dual Degree Transition Program	- Campus-wide CHALLENGE - Extended Fr. Transition Prog. - Freshmen Design Course - Transition Performance Measured - Dual Degree Transition Program
Year 11		- Campus-wide CHALLENGE - Extended Fr. Transition Program - Freshmen Design Course - Dual Degree Transition - Transition Performance Evaluation

Georgia Tech CIT Technology-Based Curriculum Delivery Institutionalization Timetable

	SUCCEED-Sponsored Activities	*Institution-Sponsored Activities*
Years 6-7	- Video-conferencing Facility - ECE Technology Group meets weekly - Workshop on Teaching w/Technology - Student developed animation applets - Acquired Infrastructure for creating streamed media modules	- Video-conferencing Facility - ECE Technology Group meets weekly - Workshops on Teaching w/Technology - Java course & development for education - Initiatives for using streamed media in distance education
Year 8	- Video-conferencing Facility - ECE Technology Group expanded - Initiate Tutoring Modules (streamed) - Workshop on Teaching w/Technology - Educate/train graduate assistants - Id/train more technology leaders - Link with other universities	- Intra-campus Videoconferencing - Technology Group expanded - Pilot Usage of Tutoring modules - Workshops on Teaching w/Technology - Educate/train graduate assistants - Id/train more technology leaders - Engineering program with south Georgia universities
Year 9	- Video-conferencing Facility - Technology Group expanded - Easy Production of Tutoring Modules - Workshop on Teaching w/Technology - Data on technology impact in courses - Educate/train graduate assistants - Id/train more technology leaders - Link with other universities	- Intra-campus Videoconferencing - Technology Group expanded - Wider Usage of Tutoring modules - Workshops on Teaching w/Technology - Data on technology impact in courses - Educate/train graduate assistants - Id/train more technology leaders - Engineering program with south Georgia
Year 10	- Video-conferencing Facility - Workshop on Teaching w/Technology - Data on streamed tutoring impact - Link with other universities	- Intra-campus Videoconferencing - Workshops on Teaching w/Technology - Data on technology impact in courses - Engineering program with south Georgia
Year 11		- Intra-campus Videoconferencing - Technology Group Meetings - Workshops on Teaching w/Technology - Evaluate data on technology impact - Expand education/training of faculty and graduate assistants - Intra-/Inter- University Network Group

North Carolina A&T State University CIT Strategic Plan Overview

Vision Beyond SUCCEED

North Carolina A&T State University's vision for year 10 and beyond in each of the areas of SUCCEED can be summarized as follows:

- Faculty Development: A coordinator will integrate the College programs with the University programs and establish a formal development program for new faculty. Rewards and incentives for effective and/or innovative teaching and educational research will be an annual activity.
- Outcomes Assessment: OA activities will be an on-going and normal way of doing business in the College and all of its academic programs. The OA results will be the primary input to program curriculum revision and other processes at the college.
- Student Transitions: Several ST programs will be in place to address the needs of all our students. We will continuously seek new and improved methods of transitioning through the undergraduate program. There will be significant presents of Native Americans in our engineering program. All students will be able use a state of the art Product Test and Design Center to analyze various types of products.
- Technology-Based Curriculum Delivery: We will have a college-wide coordinator for the use of technology in engineering education. Faculty and students will be accustom courses delivered via ALN technologies. Classrooms will include the latest technologies.

Over-Arching Strategies

- work with the University to leverage our activities;
- coordinator for each program; and
- a core of faculty committed to the effort.

Significant Accomplishments in Year 7

Faculty Development

- Faculty have a better understanding of FD and how we can help them do a better job.
- Several faculty (20%) have attended teaching improvement workshops and returned better equipped and excited about teach effectively.

Outcomes Assessment

- SUCCEED OA team leader appointed as OA Director for COE
- Weekly meetings attended by representatives from all departments

Student Transitions

- An industry supported cost-effective summer bridge program initiated. (ALVA)
- An industry supported professional development workshop series (AGGIENEER Workshop) was also established.

Technology Based Curriculum Delivery

- The university has established a Faculty Interest Group for TBCD.
- A laboratory has been established for Collaborative Learning Environments.

NC A&T CIT Faculty Development Institutionalization Timetable

	SUCCEED – Sponsored Activities	University/College – Sponsored Activities
Year 6	Planning and data gathering	University begins FD Program with 10 workshops
Year 7	• Defined best practices • Brown bag discussion group on teaching • Plans for a new faculty orientation program	• University FD program with 10 workshops • Plans new faculty orientation program • Coordination of several FD programs on campus
Year 8	• FD Coordinator • A new faculty orientation program • Support for travel to development workshops • Support for special incentives for excellence in teaching	• University FD program • Brown bag discussion group on teaching • FD Coordinator • A new faculty orientation program • Support for travel to development workshops
Year 9	• FD Coordinator • A new faculty orientation program • Support for travel to workshops • Support for special incentives for excellence in teaching • Develop and implement a communications network to exchange information and ideas concerning Faculty Development • Plans for adding teaching innovations and educational research activities to the promotion and tenure portfolio	• University FD program • Brown bag discussion group on teaching • FD Coordinator • A new faculty orientation program • Support for travel to workshops
Year 10	• FD Coordinator • A new faculty orientation program • Support for travel to workshops • Support for special incentives for excellence in teaching	• University FD program • Brown bag discussion group on teaching • FD Coordinator • A new faculty orientation program • Support for travel to workshops • Support for special incentives for excellence in teaching • Presentation to COE faculty the plan for adding teaching innovations and educational research activities to the promotion and tenure portfolio
Year 11		• University FD program • Brown bag discussion group on teaching • FD Coordinator • A new faculty orientation program • Support for travel to workshops • Support for special incentives for excellence in teaching

NC A&T CIT Outcomes Assessment Institutionalization Timetable

	SUCCEED-sponsored activity	College or dept.-sponsored activity
Year 6	- Outcomes Assessment Workshop - Distribute OA Planning Guide (hard copy and on WWW)	- Organization of a college-wide OA Committee - Regular meetings of OA Committee to discuss OA issues - Seminars on OA and Assessment Tools - Review program objectives
Year 7	- Outcomes Assessment Workshop - Curriculum Renewal based on OA Workshop - Develop procedure for seeking stakeholder input - Provide example set of program outcomes - Investigate assessment tools and instruments - Seminar on assessment tools - Guidance on developing rubrics for assessment - Present seminar on SUCCEED's model for Curriculum Renewal based on OA	- Appointment of OA Director for COE - Regular meetings of OA Committee to discuss OA issues - Seminars on OA and Assessment Tools - Selected faculty members undergo ABET EC 2000 Training course - Develop assessment schedule - when, who is responsible - Develop rubrics for assessment
Year 8	- Seminar on assessment tools - Guidance on developing rubrics for assessment - Assist programs in summarizing and interpreting assessment data - Present seminar on SUCCEED's model for Curriculum Renewal based on OA - Develop NCA&T's model for Curriculum Renewal - Share NCA&T's model for Curriculum Renewal with COE members - Assist COE programs in applying Curriculum Renewal Model	- Regular meetings of OA Committee to discuss OA issues - Seminars on OA and Assessment Tools - Stakeholder feedback - Revise program objectives based on stakeholder input, institutional mission - Establish program outcomes - Improve on rubrics for assessment - Perform one cycle of data collection
Year 9	- Assist programs in summarizing and interpreting assessment data - Share NCA&T's model for Curriculum Renewal with COE members - Assist COE programs in applying Curriculum Renewal Model	- Regular meetings of OA Committee to discuss OA issues - Stakeholder feedback - Revise program objectives based on stakeholder input, institutional mission - Perform one cycle of data collection
Year 10	- Assist programs in summarizing and interpreting assessment data - Assist COE programs in applying Curriculum Renewal Model	- Regular meetings of OA Committee - Stakeholder feedback - Revise program objectives based on stakeholder input, institutional mission - Perform one cycle of data collection
Year 11		- Continue processes from Year 10 - Assist programs in summarizing and interpreting assessment data - Assist COE programs in applying Curriculum Renewal Model

NC A&T CIT Student Transitions Institutionalization Timetable

	SUCCEED- Supported Activity	University/College/Department/ External Agencies Support
Year 6	Orientation & Planning of ST Focus Summer Internships	Summer ESP Program
Year 7	VISIONS Freshman Orientation ESP Summer Enrichment Program ALVA program Establish Teacher Intern Program (TIP) Student Prof. Development (AGGIENEER Workshops) Pilot Dual-degree transition program ST Program Coordinator	VISIONS Support ESP Summer Enrichment Program ALVA program AGGIENEER Workshops Teacher Intern Program (TIP) Pilot Dual-degree transition program Mentoring & Tutorial Programs
Year 8	VISIONS Freshman Orientation ALVA program Establish an AISES Chapter Expand Teacher Intern Program (TIP) AGGIENEER Workshops Initiate "Product Test and Design Center (PTDC)" Enhance Mentoring & Tutorial Programs ST Program Coordinator	VISIONS Support ESP Summer Enrichment Program ALVA program Teacher Intern Program (TIP) AGGIENEER Workshops Dual-degree transition program Mentoring & Tutorial Programs
Year 9	ALVA program Expand Teacher Intern Program (TIP) AGGIENEER Workshops Continue to establish PTDC ST Program Coordinator	VISIONS Freshman Orientation ESP Summer Program ALVA program Teacher Intern Program (TIP) AGGIENEER Workshops Dual-degree transition program Mentoring & Tutorial Programs PTDC
Year 10	ALVA program Teacher Intern Program (TIP) AGGIENEER Workshops Continue to establish PTDC ST Program Coordinator	VISIONS Freshman Orientation ESP Summer Program ALVA program Teacher Intern Program (TIP) AGGIENEER Workshops Dual-degree transition program Mentoring & Tutorial Programs PTDC
Year 11		VISIONS Freshman Orientation ESP Summer Program ALVA program Teacher Intern Program (TIP) AGGIENEER Workshops Dual-degree transition program Mentoring & Tutorial Programs PTDC ST Program Coordinator

NC A&T CIT Technology-Based Curriculum Delivery Institutionalization Timetable

	SUCCEED-sponsored Activity	College- or Department-sponsored Activity
Year 6	Assess faculty needs	University-level Academic Computing position created Develop Collaborative Learning Environment (CLE)
Year 7	Develop faculty support group Faculty training Evaluate tools Develop Templates & Toolbox for faculty Develop assessment tools	Education Technology Coordinator hired Distance Learning Technologies explored
Year 8	Develop CLE training Evaluate Tools_Course administration & ALN	Develop technology assisted courses Train faculty on use of tools Enhance the classroom infrastructure Facilitate faculty administration of courses
Year 9	Develop support for standard tools_ faculty and students Evaluate/ Implement streaming technologies	Implement infrastructure support for web-based/ Internet-based curriculum delivery. Evaluate impact of student computer ownership Provide College of Engineering TBCD Laboratory
Year 10	Generate library of content Generate standard, on-line assessment tools.	15% faculty use CLE in courses Establish streaming media server Faculty training Evaluate new tools Generate on-line faculty help for tools
Year 11		Faculty training Distance learning evaluated Tools developed/ evaluated Laboratory upgraded

North Carolina State University CIT Strategic Plan Overview

Vision Beyond SUCCEED

NC State University's vision for Year 10 and beyond in each of the four focus areas of SUCCEED can be characterized as follows:

- *Faculty Development.* NC State will have a comprehensive faculty development program that is fully supported by the University, the College of Engineering, and COE departments. All faculty will have access to the program and be encouraged to participate in its activities.
- *Outcomes Assessment.* NC State will have a comprehensive assessment plan for continuous improvement for each of its academic programs. Our goal is to have one set of procedures that meets both internal and external needs.
- *Student Transitions.* NC State will provide a wide range of programs to assist all students with transitions to campus, during their academic programs, and into the workforce or graduate school.
- *Technology-Based Curriculum Delivery.* NC State will have in place an infrastructure which builds upon and leverages existing college and university information technology infrastructure and resources; is scalable such that it can grow as faculty and student demand grows, is robust and maintainable, and is easy to use by both faculty and students.

Over-Arching Strategy

The strategic plans, objectives and assessment targets for the four focus areas are outlined in the four individual plans. Although they vary in focus, they have several common elements. Each plan:

- builds upon on-going and related efforts at NC State;
- describes activities that occur at least once per year; and
- integrate a broad base of faculty in sponsored activities

Significant Accomplishments in Year 7

Faculty Development.

- Presented "Teaching Effectiveness Refresher Workshop" for 24 COE faculty participants.
- Held two workshops, "Communication Styles: Implications for the Classroom," presented by Dr. Alisha Waller, and , "Journeys of Women in Science and Engineering," led by Dr. Susan Ambrose.
- Presented "Orientation to Teaching Workshop" for graduate students and new faculty.
- Started a monthly lunchtime teaching discussion group called COE-Teach. Topics included starting the semester effectively, ABET EC 2000 and its implications for the classroom, and making teamwork more effective.

Outcomes Assessment.

- Development of new Electrical Engineering and Computer Engineering curricula. ECE department faculty approved the curricula in August 1998.
- Nine departments have identified assessment coordinators. The coordinators will form the Outcomes Assessment Team for the College.
- The first draft of an assessment survey for industry interviewers has been developed. The University Career Center has agreed to distribute the survey during Fall 1999.

Student Transitions.

- Implemented a new Introduction to Engineering Problem Solving course with laboratory for all new freshmen engineers (1134 students).
- Undergraduate student leaders used as mentors in all laboratories in Introduction to Engineering.
- Initiation of peer and e-mail mentoring program for women engineering students
- Leveraged prior SUCCEED support to gain a new grant from industry to expand peer mentoring and establish a new university center for Minority Student Development.

Technology-Based Curriculum Delivery.

- NC State collaborated with UNC Charlotte, NC A&T, and UNC Asheville to continue development of a common web-based video teleconferencing system (MBONE) to enhance communication/collaboration on-campus and for distance-based course offerings.
- Deployed web-based MBONE video conferencing technology to UNC Wilmington and Lenoir Community College.
- Established working group for architecture and implementation of NCSU Web course delivery framework which leverages existing Eos infrastructure.
- Web-based versions of four engineering courses were offered using Mbone techonology during 1998-99. Sites receiving courses included: UNC Asheville, UNC Wilmington and Lenoir Community College.

NC State CIT Faculty Development Institutionalization Timetable

	SUCCEED-sponsored activity	College or dept.-sponsored activity
Year 6	- Orientation to Teaching Workshop - Support for professional development - FD Coordinator for COE	- One teaching workshop (2.5 day general)
Year 7	- COE-Teach (lunchtime discussion) - Topical workshop - Support for professional development - FD Coordinator for COE	- One teaching workshop (1-day refresher) - Orientation to Teaching Workshop
Year 8	- Mentorship programs - Support for professional development - Support for course/curriculum change - FD Coordinator for COE	- Assignment of administrative responsibility for FD - One teaching workshop (topical) - Orientation to Teaching Workshop - COE-Teach - Development of uniform teaching assessment & evaluation procedure
Year 9	- Mentorship programs - Support for professional development - Support for course/curriculum change - FD Coordinator for COE	- One teaching workshop - Orientation to Teaching Workshop - COE-Teach - FD Coordinator for COE - Implementation of uniform teaching assessment & evaluation procedure
Year 10	- Mentorship programs - Support for course/curriculum change - FD Coordinator for COE	- General teaching workshop - Orientation to Teaching Workshop - COE-Teach - FD Coordinator for COE - Topical workshop - Increased support for professional development (dept. level) - Support for course/curriculum change - Incorporation of teaching assessment & evaluation procedure in review processes for promotion, tenure, and raises
Year 11		- General teaching workshop - Orientation to Teaching Workshop - COE-Teach - FD Coordinator for COE - Topical workshop - Mentorship programs - Increased support for professional development (dept. level) - Support for course/curriculum change - Incorporation of teaching assessment & evaluation procedure in review processes for promotion, tenure, and raises

NC State CIT Outcomes Assessment Institutionalization Timetable

	SUCCEED-sponsored activity	College or dept.-sponsored activity
Year 6	- Initiate ECE Curriculum Renewal(CR) - Support faculty attending workshops on CR and OA - Assist other departments with curricular renewal - Update graduating senior and alumni surveys to better reflect ABET EC2000 - Work with CFT to achieve SUCCEED goals	- ECE Curriculum Renewal - Support Employer Meetings - Support ECE Alumni Survey
Year 7	- Topical workshop on OA in COE Teach - Workshop for faculty on CR and use of the manual - Review and update employer survey - Work with OA CFT to establish coalition-wide assessment tools - Support faculty attending OA CFT workshops - Initiate the design of COE and ECE Honors Program - Complete the design of ECE BS/MS Program	- Continue ECE Curriculum Renewal - Obtain faculty support for new ECE Curriculum - Conduct updated Sophomore, Graduating Senior, Alumni and Employer Surveys - Establish college-wide OA team with representation from each department - Topical workshops on Outcomes Assessment as requested by departments
Year 8	- Work with CFT on the development of new OA tools - Support faculty attending national and regional OA workshops/conferences - Provide assistance to departments on OA & CR through bimonthly meetings of OA Team - Workshop for departmental OA Team - Complete design of COE and ECE Honors Program - Survey faculty to determine level of understanding of and involvement with assessment issues - Develop methodology for reporting college assessment process and feedback to stakeholders - Support new ECE curriculum implementation	- Document current OA methods in COE - Assist departments in setting up a process for continuous oversight of CR/OA process - Assist departmental OA coordinators in developing assessments plans - Review feedback from Sophomore, Graduating Senior, Alumni and Employer Surveys - Conduct Sophomore and Graduating Senior Surveys - Promote faculty buy-in & support for OA and CR - Evaluate progress in achieving our objectives
Year 9	- Work with OA CFT on the development and deployment of new OA tools - Support faculty attending national and regional OA workshops/conferences - Workshop for faculty and staff - topic determined by survey feedback - Develop quality guidelines for the college for assessing success of students in the college	- Develop a method for institutionalizing OA systems - Develop a method for institutionalizing OA feedback to stakeholders into the CR process - Review feedback from Sophomore, Graduating Senior, Alumni, and Employer Surveys - Conduct Sophomore and Senior Surveys - Identify needs for OA person in departments - Implement uniform teaching assessment & evaluation procedure - Provide assistance to departments for course/curriculum continuous improvement - Evaluate progress in achieving our objectives
Year 10	- Work with OA CFT on the development and deployment of new OA tools - Support faculty attending national and regional OA workshops/conferences - Workshop for faculty and/or staff	- Institutionalize OA systems and process for feedback to stakeholders - Review feedback from Sophomore and Graduating Senior Surveys - Conduct Sophomore, Graduating Senior and Alumni Surveys - Provide support for departmental OA persons to continue course/curriculum continuous improvement - Evaluate progress in achieving our objectives
Year 11		- Maintain and refine the OA and CR system developed under SUCCEED. - Review feedback from Sophomore and Graduating Senior Surveys - Conduct Sophomore and Graduating Senior Surveys - Evaluate progress in achieving our objectives

NC State CIT Student Transitions Institutionalization Timetable

	SUCCEED-sponsored activity	College or dept.-sponsored activity
Year 6	- Summer Transition Program (STP) - Minority mentoring program (START) - Scale-up of Introduction to Engineering course to 250 students - Participation in climate survey - Identification of ongoing multidisciplinary design opportunities - Support for attending Workshops on ST	- Summer Transition Program (STP) - Minority mentoring program (START) - Establishment of Women in Engineering Program - Scale-up of Introduction to Engineering course - Support of multidisciplinary design courses
Year 7	- Summer Transition Program (STP) - Expansion of minority mentoring program (START) - Scale-up of Introduction to Engineering course to 1100 students - Initiation of mentoring program for female students, Women Engineers Networking Together, WENT - Initiation of transition weekend program for female students - Evaluation of report from climate survey - Identify obstacles that transfer students experience - Develop strategy for writing and speaking across the curriculum - Identify strategies for encouraging multidisciplinary design - Programmatic assessment - Reconstitute National Advisory Board for minority engineering - Encourage international partnerships	- Summer Transition Program (STP) - Minority mentoring program (START) - Scale-up of Introduction to Engineering course - Remodel/equip laboratories for freshman course - Support of multidisciplinary design courses - Women in Engineering program - Development of a strategy for writing and speaking across the curriculum - Reconstitute National Advisory Board for minority engineering program.
Year 8	- Minority mentoring program (START) - Women Engineers Networking Together, WENT - Introduction to Engineering course to 1100 students - Writing and speaking across the curriculum - Development of a model for encouraging/supporting multidisciplinary design courses - Expand leadership opportunities with student engineering leaders (SEL) in first year laboratory courses. - Fall minority engineering scholars reception.	- Summer Transition Program (STP) - Minority mentoring program (START) - Women in Engineering program - Women Engineers Networking Together, WENT - Introduction to Engineering course to 1100 students - Writing and speaking across the curriculum - Enhance transfer student transition programs - Fall minority engineering scholars reception. - Programmatic assessment
Year 9	- Minority mentoring program (START) - Writing and speaking across the curriculum - Support for multidisciplinary design courses. - Fall minority engineering scholars reception.	- Summer Transition Program (STP) - Minority mentoring program (START) - Women in Engineering program - Women Engineers Networking Together, WENT - Introduction to Engineering course to 1100 students - Writing and speaking across the curriculum - Enhance transfer student transition programs - Fall minority engineering scholars reception. - Programmatic assessment
Year 10	- Writing and speaking across the curriculum - Support for multidisciplinary design courses	- Summer Transition Program (STP) - Minority mentoring program (START) - Women in Engineering program - Women Engineers Networking Together, WENT - Introduction to Engineering course to 1100 students - Writing and speaking across the curriculum - Support for multidisciplinary design courses - Enhance transfer student transition programs - Fall minority engineering scholars reception. - Programmatic assessment
Year 11		- Summer Transition Program (STP) - Minority mentoring program (START) - Women in Engineering program - Women Engineers Networking Together, WENT - Introduction to Engineering course to 1100 students - Writing and speaking across the curriculum - Support for multidisciplinary design courses - Enhance programs for transfer students to ease transition into the university - Fall minority engineering scholars reception. - Programmatic assessment

NC State CIT Technology-Based Curriculum Delivery Institutionalization Timetable

	SUCCEED-sponsored activity	College or dept.-sponsored activity
Year 6	- Assist with development of a coalition-wide web-based conferencing system. - Enhance faculty's ability to incorporate use of WWW-based course materials - Prepare suitable materials to tie the modules into the respective course plans. - Scale-up internet-based engineering course offerings. - Continue to put into place the technology/infrastructure to encourage course sharing.	- NC State collaborated with UNC Charlotte, NC A&T, and UNC Asheville to establish common web-based video teleconferencing system (MBONE) to enhance communication/collaboration on-campus and for distance-based course offerings. - Shared web-based MBONE video conferencing technology with UNC Wilmington and Lenoir Community College.
Year 7	- Participate in TBCD CFT - Enhance student-teacher and student-student collaboration using network-based environments. - Enhance faculty's ability to incorporate use of web-based course materials by coordinating the acquisition and deployment of an integrated set of supportable tools and guidelines. - Expand distance-based course offerings and course sharing to selected four-year campuses and community colleges. - Continue to put into place the technology / infrastructure to encourage course sharing.	- Work with new NC State Center for Learning Technology to provide faculty training and assistance programs. - Continue to scale-up internet-based engineering course offerings.
Year 8	- Participate in TBCD CFT - TBCD workshop - Student support for standard framework implementation - Student support for NCSU TBCD resource documentation and dissemination - HW/SW support for TBCD tools evaluation - Begin ViMS integration into standard framework	- Staff support for framework implementation - Student/faculty/staff support for TBCD distance education course offerings - Begin MBone Virtual Classroom dissemination
Year 9	- Participate in TBCD CFT - TBCD Workshop - Student support for standard framework implementation and tools integration - HW/SW support for tools integration - ViMS scale-up and dissemination	- Staff support for framework implementation and user support - Student/faculty/staff support for TBCD distance education course offerings - MBone Virtual Classroom dissemination
Year 10	- Student support for standard framework completion and documentation - HW/SW for framework testing and support - ViMS dissemination - Student support for TBCD cost/benefit analysis	- TBCD Workshop - Staff support for framework completion, documentation, and user support - Student/faculty/staff support for TBCD distance education course offerings - MBone Virtual Classroom dissemination - Staff support for TBCD cost/benefit analysis
Year 11	-	- Staff for user support - Student/faculty/staff support for distance education course offerings - Mbone Virtual Classroom dissemination

University of Florida CIT Strategic Plan Overview

Vision Beyond Succeed

Faculty Development:

- Fully integrated and sustainable New Faculty Orientation and Faculty Peer Mentoring..
- Institutionalized Faculty Development Workshops in the COE. Effective Teaching
- Continuing seminar series of topics of interest an importance to the engineering faculty.
- Fully developed Faculty Incentive and Rewards Program.
- Faculty Interchange and Communication network fully established.

Outcomes Assessment:

- To establish a process of continuous quality-based curriculum development and improvement for the departments in the College of Engineering, using curriculum renewal and effective outcomes assessment tools

Student Transitions:

- The University of Florida will have available a broad array of programs to assist all students with transitions to campus including freshmen and community college transfers, during their academic programs, and to their post-graduation careers

Technology-Based Curriculum Delivery:

- Provide a supportive faculty training program in conjunction with COE/SUCCEED faculty development efforts
- Promote widespread use of the WWW in all engineering courses – at least providing online course information, some course materials, and a class mailing list with archiving support
- Making up-to-date computing platforms and software tools available to faculty, and refreshing that technology on a regular and timely basis.
- Maintaining adequate infrastructure support at the Department, College and University levels

Over-Arching Strategies

SUCCEED's focus areas are complementary to the strategic plans for the College of Engineering and will be implemented in a manner consistent with overall College directions and priorities.

- Leverage the successful UF and other SUCCEED projects for institutionalization at UF
- Identify existing organizations at UF with which we can collaborate to effect institutionalization
- Identify key components of SUCCEED which fit into the broader strategic plan for the college of engineering and seek administrative and departmental support for these.

Significant Accomplishments

Faculty Development

- Introduced a new College-wide Faculty Orientation Program
  - Effective Teaching Workbook and CD developed
  -College of Engineering Faculty Development web page
- Initiated Partnership with Center for Excellence in Teaching
- Created faculty development Web Site for the College of Engineering
- Developed and piloted the distribution of Excellence in Teaching CD

Outcomes Assessment

- 10 of our 12 departments have participated in project to test outcomes assessment methods and procedures
  - Methods included student portfolios, alumni, employer and graduating student surveys
  - Establishment of industry focus groups

Student Transitions

- *IPPD* program has been extremely successful in providing students with an insight into real industrial problems and means to solve them. The program is currently running at its maximum capacity (around 23 projects)
- *STEPUP* program for incoming freshmen shows improved minority retention and is almost ready for institutionalization
- *Community College Interface* program expanded to accommodate nearly a half of incoming CC transfer students while maintaining the program success in terms of improved retention and is ready for institutionalization

Technology-Based Curriculum Delivery

- Promoted widespread usage of the WWW-based teaching for on-campus and off-campus students
  - 4 undergraduate courses entirely online using streaming video and audio in ALN
- Establishment of ISDN video conferencing
- Streaming Media Facility – established for College of Engineering

UF CIT Faculty Development Institutionalization Timetable

Timetable	SUCCEED-sponsored activity	Univ./Coll./Dept. activity
Year 6 (97-98)	▯ Faculty participating in Teaching Effectiveness Workshops ▯ New faculty orientation ▯ Organized Departmental Representatives ▯ Brown bag lunch discussions ▯ Pilot continuous evaluations ▯ FD Web Site development	▯ New Faculty Orientation ▯ Center for Excellence in Teaching ▯ Teaching Resource Center Expansion ▯ Gartner Group brought to campus
Year 7 (98-99)	▯ Institutionalize Effective Teaching / other SUCCEED Workshops ▯ Continuous improvement of ▯ Web Site (interactive) ▯ Discussion Groups ▯ New faculty orientation ▯ Student evaluations ▯ Develop local seminar series ▯ Begin devel. of new workshops ▯ Documentation plan for "Good Teaching" ▯ Faculty reward system ▯ Peer mentoring ▯ Syllabus review service ▯ Test development service ▯ Multi-media support ▯ Resource planning ▯ Organize and market implementation plan for FD	▯ Work with University resources for Seminars and Workshops ▯ Work on University, College, and Departmental support for FD activities ▯ Insure FD "Champion" in each Department ▯ Form partnership with other University resource groups.
Year 8 (99-00)	▯ Pilot the projects developed in Year 7 ▯ Continuous improvement of all processes ▯ Establish organizational structure ▯ Obtain College and University funding and support	▯ Develop sustainable interaction between other campus FD providers
Year 9 (00-01)	▯ Evaluation of pilot efforts ▯ Efforts to insure sustainability	▯ Institutionalization of all FD projects
Year 10 (01-02)	▯ Evaluation and improvement of FD activities and processes ▯ Obtain guaranteed support for sustainability	▯ The overall plan should be incorporated into University, College and Departmental programs
Year 11 **(02-03)**		New Faculty Orientation and Annual Teaching Effectiveness Workshops

UF CIT Outcomes Assessment Institutionalization Timetable

	SUCCEED-sponsored activity	College or dept.-sponsored activity
Year 6	- OA Mini-grants	-
Year 7	- OA Mini-grants	- OA Video Conference - CIT Expo
Year 8	- OA Mini-grants - CIR Mini-grants - Beta-test merged CIR/OA Manual	- Dissemination workshop(s) for OA mini-grant results – best practices - Training session for SUCCESS, a CIR software package
Year 9	- CIR Mini-grants - Document OA Mini-grant results – best practices - Test draft of CIR/OA Manual	- Dissemination workshop(s) for OA and CIR mini-grant results – best practices
Year 10	- Document CIR Mini-grant results – best practices	- Dissemination workshop(s) for OA and CIR mini-grant results – best practices
Year 11		- Integrate OA and CIR into seamless procedures for engineering program development.

UF CIT Student Transitions Institutionalization Timetable

	SUCCEED-sponsored activity	College or dept.-sponsored activity
Year 6	- IPPD expanded to 30 projects - CC and STEPUP Integration begun	- Freshman Lab – institutionalized - Partial funding of IPPD
Year 7	- IPPD expanded to 30 projects - CC and STEPUP fully integrated and institutionalized - Fully developed writing in engineering course to be institutionalized in year 8	- Freshman Lab – institutionalized - CIT Expo - IPPD funding
Year 8	- Integration of Maths Physics and Chemistry - QIP adoption - Institutionalize writing course - Reduced funding for STEPUP and CC	- Freshman Lab – institutionalized - IPPD funding - Community College and Stepup programs
Year 9	- Integration of Maths Physics and Chemistry - QIP adoption	- Freshman Lab – institutionalized - IPPD funding - Community College and Stepup programs - Writing Program
Year 10	- Integration of Maths Physics and Chemistry - QIP adoption	- Freshman Lab – institutionalized - IPPD funding - Community College and Stepup programs - Writing Program - Integrated Maths Physics Chemistry
Year 11		- Freshman Lab – institutionalized - IPPD funding - Community College and Stepup programs - Writing Program - Integrated Maths Physics Chemistry

UF CIT Technology-Based Curriculum Delivery Institutionalization Timetable

	SUCCEED-sponsored activity	College/Dept/University Sponsored activity
Year 8	• TBCD CFT workshop – send participants to Train the trainers • Student support for standard for Web-based course development • COE WebCT development and Training Server • Participate in ICEE/ASEE Conferences	• Instuctional Design Support for Online course development • Technology student assistance • WebCT Production Server • Host SLOAN/SUCCEED Conference at UF
Year 9	• Local TBCD workshop – offered in conjunction with FD workshop and Orientation to Teaching Workshop • Student support for standard for Web-based course development • COE WebCT development and Training Server • Publish results in IEEE Transactions on Education	• SLOAN/State funds for Minigrants to support faculty development of WWW-based/online courses • Instuctional Design Support for Online course development • Technology student assistance • WebCT Production Server
Year 10	• Local TBCD workshop – offered in conjunction with FD workshop and Orientation to Teaching Workshop • Student support for standard for Web-based course development • COE WebCT development and Training Server • Publish results in Journal/Conference	• SLOAN/State funds for Minigrants to support faculty development of WWW-based/online courses • Instuctional Design Support for Online course development • Technology student assistance • WebCT Production Server
Year 11	•	• SLOAN/State funds for Minigrants to support faculty development of WWW-based/online courses • Instuctional Design Support for Online course development • Technology student assistance • WebCT Production Server • Local TBCD workshop – offered in conjunction with FD workshop and Orientation to Teaching Workshop • Student support for standard for Web-based course development • COE WebCT development and Training Server • Publish results in Journal/Conference

University of North Carolina at Charlotte Strategic Plan Overview

Vision Beyond SUCCEED

The University of North Carolina's vision for Year 10 and beyond in each of the four focus areas may be broadly characterized as follows.

Faculty Development: A strong linkage between College and University faculty development activities will be forged, along with a number of on-going activities to encourage and reward faculty for participation in improvement activities
Outcomes Assessment: Outcomes Assessment will have become integral to the College strategic planning process and will be a driver of continuous improvement in all programs. The SUCCEED outcomes assessment activities will be an integral part of the College SPART team (Strategic Planning and Assessment Resources Team)
Student Transitions: An institutionalized program to assist students with transition into, and from, the University will be in place. This program will encompass mentoring, design, recruiting and retention efforts, and will be continuously assessed
Technology Based Curriculum Delivery: An environment in which TBCD is common-place, faculty are engaged in the use of technology to improve instruction, and students are to utilize technology to access the delivery channels that best fit their needs will be in place.

Over-Arching Strategies

The actions and plans of the UNCC-CIT are many but there are over-arching common strategies among the four areas;

- The SUCCEED funds and expertise are linked to ongoing, College and University sponsored activities for symbiosis and continuity
- The four areas act in concert and complement each other
- The SUCCEED linkages to other schools provide a mechanism to assure compatibility and efficiency in curriculum revision and innovation

Significant Accomplishments in Year 7

Faculty Development

Created UNCC Web-site for Faculty Development
Celebration of Teaching Day within the COE established
Various workshops sponsored, and attended, on Teaching Enhancements

Outcomes Assessment:

SPART Conducted improved student and faculty surveys
Facilitated "Structured Biennial Reassessment" for the College
Created "ASPIRE", a web-based program for reviewing program goals
Created "FACTS", a web-based program for recording faculty activities

Student Transitions

Expanded and improved the Mentoring/Supplemental Instruction (MAPS) program
Developed an undergraduate Professional Development Seminar series
Developed, initiated an improved a Student Transitions Database

Technology-Based Curriculum Development

Delivered courses to remote sites via MBONE
Utilized WCB discussion format to facilitate team projects in freshman courses
Installed Web Course in a Box for Faculty use

UNC-C CIT Faculty Development Institutionalization Timetable

	SUCCEED-sponsored activity	College or dept.-sponsored activity
Year 6	- Peer-Observation of Teaching Workshop - Support for attending workshops - FD Coordinator for COE	- Funding for attending workshops - Summer funding for new faculty for curriculum development
Year 7	- Topical workshop - Support for attending workshops - Assessment of FD activities - FD Coordinator for COE	- One teaching dialogue - Funding for attending workshops - Summer funding for new faculty for curriculum development
Year 8	- Topical workshop - Support for attending workshops - Assessment of FD activities - Implementation of results of assessment - FD Coordinator for COE	- Form Standing committee on teaching improvement - Teaching dialogue - Form teaching circles - FD college administrator identified
Year 9	- Topical workshop - Support for attending workshops - Assessment of FD activities - Implementation of results of assessment - FD Coordinator for COE	- Teaching workshop - Teaching dialogue - Teaching circles - Revise existing teaching assessment system
Year 10	- Topical workshop - Support for attending workshops - Assessment of FD activities - Implementation of results of assessment - FD Coordinator for COE	- Teaching workshop - Teaching dialogue - Teaching circles - Increased support for FD - Revise Faculty Mentoring Program - Implement new teaching assessment system
Year 11		- Teaching workshop - Teaching dialogue - Teaching Circles - Implement new mentoring program - Support for attending workshops - Assessment of FD activities - Additional funding for winners of the ALCOA teaching award

UNC-C CIT Outcomes Assessment Institutionalization Timetable

	SUCCEED-sponsored activity	College or dept.-sponsored activity
Year 6	- students assistants for SPART - Link institutional Research databases to new SPART database - Send faculty to CFT-sponsored OA workshop and to present papers - Send faculty to ASEE / AAHE workshops on O/A - Support student to devel. CD ROM on Total Quality Class for docum.	- hire data-base assistant director for SPART - purchase computer systems and software - refine alumni surveys - refine student surveys - refine employer surveys - refine faculty surveys - administer surveys and analyze - report survey results along with other data to departments for 1998 SBR
Year 7	- complete programming for ASPIRE - complete programming for FACTS - Alpha Test ASPIRE (grad student) - Alpha test FACTS (u/g students) - Summarize results of SPART surveys	- develop template for ABET criterion 3 - complete draft of proposed freshman year objectives by ENGR1201/02 faculty and by each department - prepare SPART survey forms for scanner scoring - Conduct SBR's for college and all departments - develop UCC post-grad databases for college and departments - Obtain feedback on program objectives, ABET 2000, and general education learning outcomes and measures from constituencies - conduct focus groups on learning communities - Get measures for Prestige - Update retention database - Develop the FTE database - Update/upgrade new enrollment database - Develop GRE and SAT databases - Conduct SPART surveys - Report results on learning communities - Develop COM and GEI databases - Finalize program objectives, ABET 2000, and general education learning outcomes and measures (w/dept consensus) - Develop assessment process for tracking retention and graduation rate for ET distance learning program - Upgrade/update co-op 49ership database (including ABET 2000) - Upgrade/update NACE databases - Upgrade/update patent databases - Implement phase 2 of the budget management system (upgrades) - Upgrade/update alumni donations database - Upgrade/update UTA/URA/GTA/GRA database - Develop databases to track SPART survey results - Develop databases to track % of PE's - Develop databases to track % of grads in NC/SC
Year 8	- Beta Test ASPIRE - Revise Aspire based on Beta test - Beta Test FACTS - Revise FACTS based on Beta test - Send faculty to O/A workshops - Send faculty to O/A conferences to present papers - Participate in SUCCEED CFT Faculty Development workshop in course improvement using Outcome Assessment results	- Update/upgrade FE database - Summarize COM and GEI survey and report results - Upgrade format for SPART booklet reports - Implement the electronic faculty reporting system FACTS - Implement the electronic strategic plan scorecard ASPIRE - Implement assessment processes and tools for program objectives and ABET 2000 and general education learning outcomes - Upgrade/update alumni database - Develop process for why students leave and where they go - Develop process to assess learning communities - Determine how to develop and use student portfolios for OA - Conduct round 3 of Structured Biennial Reassessments (SBR's)
Year 9	- Support faculty to attend O/A workshops / conferences to disseminate results Send faculty to SUCCEED CFT O/A workshop on portfolio development and mgmt. - Assist in development of pilot electronic Portfolio mgmt. system	- Continue with entire SPART-facilitated data management and reporting system - Pilot student portfolio system in at least two departments - Poll college faculty on FACTS system / assess its effectiveness - Poll university faculty on ASPIRE system / assess its effectiveness - Develop / monitor data-driven improvement documentation system

Year 10	- Support faculty to attend O/A workshops and conferences to disseminate results in papers and workshops - Send faculty to SUCCEED CFT O/A workshop on continuous improvement of O/A systems - Assist in devel. of data driven improvement and documentation system	- develop comprehensive student portfolio management system and alpha test - continue entire SPART-facilitated data management protocol - revise/improve ASPIRE - revise/improve FACTS - promote and monitor use of data-driven improvement and documentation system - Conduct Round 4 of Structured Biennial Reassessments (SBR's)
Year 11		- continue entire SPART-facilitated data management protocol - Beta Test comprehensive student portfolio management system - Institutionalize use of data-driven improvement and documentation system - Support faculty to attend O/A workshops and conferences to disseminate results in papers and workshops - Send another contingent of faculty to O/A workshops on continuous improvement of O/A systems

UNC-C CIT Student Transitions Institutionalization Timetable

	SUCCEED-sponsored activity	College or dept.-sponsored activity
Year 7	- Conduct Best Practice Visit to Va Tech. - Conduct SUCCEED Mentoring/Bridge Workshop. - Investigate the possibility of using a College of Engineering freshman attitude survey. - Hire additional student resources for MAPS. - Develop student transitions databases.	- Organize Workshop: "Designing Technical Writing Assignments for College of Engineering Students" - Organize Workshop: "Understanding and Improving Second Language Writing in the College of Engineering" - Implement upgrades to the electronic peer evaluation system used in ENGR 1201/1202 - Create a professional development seminar series using alumni and local professionals - Assign specific responsibility for recruiting and international programs assigned with COE. - Formalize and document the COE International Programs exchange process. - Implement improvements to MAPS and ENGR 1201/1202 - Investigate the possibility of purchasing NT versions of the FE and GRE - Conduct focus groups on building student learning communities. - Conduct Change of Major and Graduating Senior surveys and summarize results. - Conduct annual SPART surveys: students and faculty. - Conduct triennial SPART surveys: alumni and employers.
Year 8	- Send faculty to SUCCEED Student Transitions Workshop - Hire additional student resources for MAPS. - Hire students to continue to develop student transitions databases.	- Develop a plan to improve the advising process. - Develop a plan for building student learning communities and assessing their impact on retention. - Implement upgrades/enhancements to the undergraduate retention tracking system. - Continue development of the graduate student retention tracking system. - Continue developing student transitions databases. - Develop and begin implementing a comprehensive recruiting/marketing plan. - Conduct Change of Major and Graduating Senior surveys and summarize results. - Conduct annual SPART surveys: students and faculty.
Year 9	- Send faculty to SUCCED Student Transitions Workshop. - Fully institutionalize student transitions databases including undergraduate and graduate retention tracking systems.	- Implement assessment processes to determine the effectiveness of learning communities and their impact on retention. - Ensure linkage of student transitions databases with COE planning process. - Conduct Change of Major and Graduating Senior surveys and summarize results. - Conduct annual SPART surveys: students and faculty.
Year 10	- Send faculty to SUCCEED Student Transitions Workshop. - Identify and implement data driven improvement and documentation systems.	- Fully institutionalize MAPS, ENGR 1201/1202, learning communities, and other student transitions databases and assessment and continuous improvement processes.
Year 11		- Identify and implement data driven improvement and documentation system.

UNC-C CIT Technology-Based Curriculum Delivery Institutionalization Timetable

	SUCCEED-sponsored activity	College or dept.-sponsored activity
Year 6	- SUCCEED video conferencing facility - Internet Classroom startup equipment - Student project to investigate Internet Course delivery software	- Internet Classroom space assigned, renovated, and additional equipment installed - Pilot study of web courseware management tools - Study of Courseware Management tools
Year 7	- Support for SUCCEED video conferencing facility - Support for sending faculty to Electronic Materials workshop - Support for sending faculty to WWW workshop - Support for sending faculty to Courseware Authoring tools workshop - Support for sending faculty to Streaming Audio and Video workshop - Student project to develop/adapt/adopt software to support MBONE technology - Study of ALN techniques - Student project to investigate the use of network collaboration products	- Staff assigned to support SUCCEED video conferencing facility - Support for Internet Classroom - Delivery of Statics to UNC-Wilmington and Lenoir Community College via the Internet Classroom - Trial workshop on Courseware Management software package (WCB) - Implementation of WCB for courseware management - On-campus WWW workshop
Year 8	- Support for SUCCEED video conferencing facility - Support for sending faculty to TBCD workshops - Internet Classroom upgrades - Project to develop software for synchronous and asynchronous forum building - Develop workshop on asynchronous forum building - Develop the Engineering Technology Fire Science program course delivery mechanism	- Staff Support for Video conferencing facility - Internet Classroom redesign and completion - Support for Internet Classroom - Delivery of at least two courses to UNC-W, Lenoir CC, and UNC-Asheville via the Internet Classroom - Support for WCB - Implementation of Real Media server and producer software for streaming media - On-campus WCB workshop - On-campus Electronic Materials workshop - On-campus Streaming Media workshop
Year 9	- Upgrade of SUCCEED video conferencing facility - Support for sending faculty to TBCD workshops - Support for SUCCEED video conferencing facility	- Staff Support for Video conferencing facility - Support for Internet Classrooms - Support for WCB - Support for Real Media - Deliver Engineering 2+2 Program to remote sites - On-campus WCB workshop - Trial Asynchronous Forum Building Workshop - Deliver first Engineering Technology Fire Science Program courses to multiple remote sites
Year 10	- Support for SUCCEED video conferencing facility	- Staff Support for Video conferencing facility - Support for Internet Classrooms - Support for WCB - Support for Real Media - On-campus Electronic Materials workshop - On-campus Streaming Media workshop - On-campus WCB workshop - On-campus WWW workshop - On-campus Forum Building workshop - Deliver Engineering 2+2 Program to remote sites - Deliver Engineering Technology Fire Science Program to remote sites
Year 11		- Support for Video conferencing facility - Support for Internet Classrooms - Support for WCB or an alternative - Support for Real Media or an alternative - On-campus Courseware workshops - On-campus multimedia workshops - Deliver Engineering 2+2 Program to remote sites - Deliver Engineering Technology Fire Science Program to remote sites

Virginia Polytechnic Institute and State University Strategic Plan Overview

Vision Beyond SUCCEED

- *Faculty Development.* We are building an active, self-sustaining Engineering Learning Community (ELC) dedicated to faculty support and development, the continuous improvement of learning environments, and student success. SUCCEED has formed a partnership with the University Center for Excellence in Undergraduate Teaching (CEUT). The core members of ELC are participants of Felder/Brent Teaching Leader Workshops and the director of CEUT. CEUT provides support for practically every aspect of teaching and learning, from special workshops for graduate teaching assistants and new faculty to seminars on teaching large classes and faculty study groups. The SUCCEED-CEUT partnership will be transformed into an Engineering-CEUT partnership.

- *Outcomes Assessment.* The new ABET EC 2000 requirements are a learning process for the entire engineering community. We must use assessment results as input to curriculum renewal. Our vision is full accreditation for all degree programs at our next accreditation review. SUCCEED will have been the catalyst for adopting and adapting best practices in outcomes assessment and curriculum renewal processes.

- *Student Transitions.* Our student transitions program is at the heart of SUCCEED's mission as an agent of change: "...to develop, implement, evaluate, and disseminate new, more effective models of engineering education and to change the academic culture in ways that will support the new models..." (John Prados, The Innovator, Fall 1995). The academic culture can only be changed one teacher at a time, one learning environment at a time. The Dean of the College of Engineering has been an active supporter of SUCCEED's mission. By reaching a critical momentum, we can attain our mission.

- *Technology-Based Curriculum Delivery.* The goal is to extend the reach and effectiveness of engineering education through the use of advanced computing and communication technologies. We are developing a partnership with the University's Faculty Development Institute (FDI). The primary goal of FDI is to provide faculty the opportunity to rethink methods and improve teaching and learning through the use of technology. The FDI presents a four-day workshop in the summer, followed during the academic year by twenty discipline-specific workshops on advanced topics. The FDI received the Hesburgh Award for successful, innovative faculty development programs. The Engineering-FDI partnership will carry on the function of TBCD.

Over-Arching Strategies

The mission of our Campus Implementation Team (CIT) is to promote the adaptation and implementation of the SUCCEED curriculum model, a systems model for education (Fig. 1), in the unique environment of Virginia Tech. In addition we will draw guidelines from other sources, such as other NSF coalitions, educational research, and innovative learning environments, to foster student success in college, in the workplace, and in their own lives.

Figure 1. Systems model for education

Significant Accomplishments in Year 7

Faculty Development

- We are building an Engineering Learning Community (ELC) in the framework of the SUCCEED-CEUT partnership. The ELC is dedicated to faculty development and student success. We presented two FD workshops, one FD-TBCD workshop, and held three follow-up meetings. A total of 140 faculty participated. This does not include faculty members who attended FDI and CEUT workshops or the FDI Instr. Tech. Conf.
- We are hosting the Brent/Felder workshop on "Mentoring and Supporting New Faculty" (April 23, 1999).
- We are presenting three FD-TBCD workshops at SUCCEED conferences (Clemson University, February 19, 1999; North Carolina State University, April 8-9, 1999).

Outcomes Assessment

- Conducted OA planning workshop for degree programs.
- Designed a programmatic set of templates (adopted as a best practice for OA CFT workshops) to work through steps in the outcomes assessment process--all degree programs involved in meeting deadlines for each step.
- Sent faculty participants to SUCCEED OA workshops.
- ME curriculum renewal based on SUCCEED curriculum model is completed.
- The focus of education is on engineering applications; students at the sophomore level are already engaged in engineering projects that used to be limited to seniors.
- 70% of all students are involved in multidisciplinary capstone design projects; the goal is 100%.
- The following departments have completed one cycle of curriculum renewal: EcpE, MSE, Mining, ChE.

Student Transitions

The SUCCEED mission has been advanced through activities and pilots involving approximately 1500 students.

- First year transitioning and mentoring programs (ongoing)
- SUCCEED ESP-Calculus (ongoing)
- Virtual Corporations (institutionalized)
- Hands-on Workshop Statics (ongoing)
- Infrastructure Assessment and Rehabilitation Design (institutionalized)
- Integrated Building Design (ongoing)
- Workplace Transitioning (ongoing)
- Mechatronics Education (new Y8)
- Biological Systems Engineering (new Y7)
- Introductory Engineering Lab (ongoing)
- Early Engineering Design (new Y8)

Technology-Based Curriculum Delivery

Multimedia Learning Environment

- Taught section of Engineering Mechanics (ESM 3704) to evaluate and improve the program.
- Papers, presentations, and workshops: *1998 ASEE Annual Conference*, Seattle, Washington; Third International Conference on Multimedia Engineering Education, Hong Kong; *Workshop on Reform of Undergraduate Mechanics Education*, Pennsylvania State University; *ICEE '98*, International Conference on Engineering Education, Rio de Janeiro, Brazil; International Journal of Engineering Education; 1999 Annual ASEE Southeastern Section Meeting, Clemson University; 1999 ASEE Annual Conference, Charlotte, NC.
- Faculty at Clemson and Mississippi State are implementing elements of our Multimedia Learning Environment (MLE). In addition, we gave a workshop on the MLE to faculty at Universidad Nacional de Rio Cuarto, Cordoba , Argentina. More than sixty faculty requested instructions for downloading from Internet.

Internet-based Education

- Developed and delivered half-day workshop, including supporting web site, on "Designing Effective Web-Sites for Teaching and Learning" as part of part of the CEUT Winter Faculty Development Conference.
- Integrated web and other technology into two undergraduate classes, including one distance learning class.

Virginia Tech CIT Faculty Development Institutionalization Timetable

	SUCCEED-sponsored activity	College or dept.-sponsored activity
Year 6	• Participation of Virginia Tech faculty / students in coalition activities: Eff. Tch. Wkshp. (incl. 3 teaching ldrs.); Student Success Wkshp.; Multidisc. Des. Wkshp.; Posters of Pilot Courses; Orient. to Tch. Wkshp. • Sem./wkshps. by VT Faculty: Changing the Culture of Educ.; Instr. Tech.: Best Pract. in Sci. and Eng., Multi-disc. Des. Proj., Multimed. Lrning. Env., Orient. to Tch., Active Lrning. with Multimed., Intrnt-Based Instr. Meth. • seminars by SUCCEED PIs to form teams and pilot SUCCEED courses by Tom Miller (NCSU), Dave Ollis (NC State), Sarah Rajala (NCSU), Richard Felder and Rebecca Brent (NCSU), Jack Elzinga (UF), Michael Leonard (Clemson), and Donald Beasley (Clemson) • 6 SUCCEED-based pilot courses taught in year 6.	• Orientation to Teaching Workshop • New Engineering Faculty Familiarization Program: 8 sessions during academic year • CEUT activities: workshops for faculty and graduate assistants, faculty study groups, Instructional Enhancement Grants • FDI Four-Day Summer Workshop, twenty discipline-specific workshops, Instructional Technology Conference, and courseware development support • CIL Course Dev. / Provost's Student Success Grants
Year 7	• 2 SUCCEED-CEUT FD workshops • FD-TBCD workshop • 4 Follow-up faculty networking meetings • Mentoring Faculty Support workshop	• COE New Engr. Fac. Familiarization Program • CEUT activities: workshops for faculty and graduate assistants, faculty study groups, brown-bag meetings, Instructional Enhancement Grants • FDI Four-Day Summer Wkshp., twenty discipline-specific wkshps., Instr. Tech. Conference, and courseware development support • CIL Course Dev. / Provost's Student Success Grants
Year 8	• SUCCEED-CEUT FD workshop • Follow-up faculty networking meetings (every 6 weeks) • FD-TBCD workshop • Graduate teaching assistant workshop and networking • New faculty development/mentoring programs	• COE New Engr. Fac. Familiarization Program • CEUT activities: workshops for faculty and graduate assistants, faculty study groups, brown-bag meetings, Instructional Enhancement Grants • FDI Four-Day Summer Wkshp., twenty discipline-specific wkshps., Instr. Tech. Conference, and courseware development support • CIL Course Dev. / Provost's Student Success Grants
Year 9	• SUCCEED-CEUT FD workshop • Follow-up faculty networking meetings (every 6 weeks) • FD-TBCD workshop • Graduate teaching assistant workshop and networking • New faculty development/mentoring programs	• COE New Engr. Fac. Familiarization Program • CEUT workshops for faculty / GAs, faculty study groups, brown-bag meetings, Instr. Enh. Grants • FDI Four-Day Summer Wkshp., twenty discipline-specific wkshps., Instr. Tech. Conference, and courseware development support • CIL Course Dev. / Provost's Student Success Grants
Year 10	• SUCCEED-CEUT FD workshop • Follow-up faculty networking meetings (every 6 weeks) • FD-TBCD workshop • Graduate teaching assistant workshop and networking • New faculty development/mentoring programs	• COE New Engr. Fac. Familiarization Program • CEUT workshops for faculty / GAs, faculty study groups, brown-bag meetings, Instr. Enh. Grants • FDI Four-Day Summer Wkshp., twenty discipline-specific wkshps., Instr. Tech. Conference, and courseware development support • CIL Course Dev. / Provost's Student Success Grants
Year 11		• Engineering Faculty Fellow • COE New Engineering Faculty Mentoring Program • Engr.-CEUT workshops for faculty / GAs, faculty study groups, brown-bag mtgs., Instr. Enh. Grants • Follow-up networking meetings • Engr.-FDI Four-Day Summer Wkshp., twenty discipline-specific wkshps., Instr. Tech. Conference, and courseware development support • CIL Course Dev. / Provost's Student Success Grants • Engineering-CEUT fall workshop

Virginia Tech CIT Faculty Development Institutionalization Timetable

	SUCCEED-sponsored activity	College or Dept-sponsored Activity
Year 6	Assist in OA workshop Corporate contacts	Finalize ME curriculum innovation Begin other departments: Freshman EF, EcpE, MSE, Mining, ChE
Year 7	Send faculty to OA workshops	Continue Curriculum renewal of EF and other departments Design College-wide template for OA process Attend conferences Use best practices from SUCCEED
Year 8	Participate in OA workshops Participate in Employer Feedback Participate in Portfolio Project	Collect data using templates Use data for Curriculum Innovation and Renewal of all departments
Year 9	Contribute to Dissemination of Employer Feedback and Portfolio result	Prepare for ABET Continue OA/CIR process
Year 10	Contribute to Dissemination of SUCCEED expertise	Continue OA/CIR process

Virginia Tech CIT Student Transitions Institutionalization Timetable

	SUCCEED-sponsored activity	College or dept.-sponsored activity
Year 6	• SUCCEED ESP-Calculus • Virtual Corporations • Workshop Statics • Infrastructure Assessment and Rehab. Design • Integrated Building Design • Workplace Transitioning • Introductory Engineering Lab	• SUCCEED ESP-Calculus • Virtual Corporations • Workshop Statics • Infrastructure Assessment and Rehab. Design • Integrated Building Design • Workplace Transitioning • Introductory Engineering Lab
Year 7	• SUCCEED ESP-Calculus • Virtual Corporations • Workshop Statics • Infrastructure Assessment and Rehab. Design • Workplace Transitioning • Biological Systems Engineering • Introductory Engineering Lab • Early Engineering Design	• SUCCEED ESP-Calculus • Virtual Corporations • Workshop Statics • Infrastructure Assessment and Rehab. Design • Workplace Transitioning • Biological Systems Engineering • Introductory Engineering Lab • Early Engineering Design
Year 8	• SUCCEED ESP-Calculus • Workshop Statics • Biological Systems Engineering • Introductory Engineering Lab • Early Engineering Design • Mechatronics Education • Support for community college interactions • Piloting of freshman workshop • Piloting of problem solving component of bridge program	• Virtual Corporations • Workshop Statics • Infrastructure Assessment and Rehab. Design • Workplace Transitioning • Dissemination of Year 7 Results • Mentoring programs • Junior/Senior Transition Seminar Series • Continuation of Freshman Transitioning Seminar Series • Intervention Workshops for Freshman
Year 9	• Biological Systems Engineering • Introductory Engineering Lab • Early Engineering Design • Mechatronics Education • Expansion of shadowing (pilot corp. ment.) • Community College Articulation Conf. Pilot • Devel. and piloting of Career Plan. Guide • Devel. and Piloting of a Transfer Orient. Pgm. • Development of Advisor Training Modules	• Virtual Corporations • Workshop Statics • Infrastructure Assessment and Rehab. Design • Workplace Transitioning • Docum. and Dissemination of Year 8 Results • Implem. of Modules for Student Training • Expansion of Freshman Workshop • Eval. of Prob. Solv. Modules for Bridge Pgm. • Expansion of Articulation Conference
Year 10	• Biological Systems Engineering • Introductory Engineering Lab • Early Engineering Design • Mechatronics Education • Devel. and Pilot Lrning. Styles Wkshp • Expansion of Ment. Act. to new target pops.	• Virtual Corporations • Workshop Statics • Infrastructure Assessment and Rehab. Design • Workplace Transitioning • Conduct Advisor Training Workshop • Evaluation of Advisor Training Modules
Year 11		• Virtual Corporations • Workshop Statics • Infrastructure Assessment and Rehab. Design • Workplace Transitioning • Biological Systems Engineering • Introductory Engineering Lab • Early Engineering Design • Mechatronics Education